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The Development of the Educational and Biographical Information Survey

by

Barbara Means
Linda S. Perelman

HUMAN RESOURCES RESEARCH ORGANIZATION
1100 South Washington Street • Alexandria, Virginia 22314-4499

June 1984

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Prepared for:

Office of the Assistant Secretary of Defense
(Manpower, Installations & Logistics)

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The Educational and Biographical Information Survey (EBIS) was developed to explore the potential utility of biodata in military selection and to collect data relevant to the evaluation of current educational and moral enlistment standards. The EBIS, which includes items concerning high school grades and behaviors, employment history, family background, and involvement with law enforcement agencies, was administered to 34,000 military applicants and nearly		

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40,000 new recruits from all four services in the spring of 1983. This report describes the EBIS development, content, administration, and data processing procedures. Item specifications for the EBIS appear in the final chapter.



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Foreword

The Directorate for Accession Policy, Office of the Assistant Secretary of Defense (Manpower, Installations and Logistics), has responsibility for policy oversight in the area of enlistment standards. Congress has urged DoD and the Services to develop a strong foundation of empirical research upon which enlistment standards can be based. The particulars of these standards may be an important issue in planning for a future when a dwindling supply of young people will be available as potential military accessions. At present, enlistees must meet minimum standards in terms of age, citizenship, physical and medical fitness, moral fitness, aptitude test scores, and educational level. While test scores and educational level have been shown to help predict military performance, current standards result in the acceptance of many persons who subsequently fail to complete their terms satisfactorily. As many as 15-20 percent of new recruits with high school diplomas and 30-40 percent of recruits without diplomas are separated from the Services prior to completion of the first term because of failure to meet behavior or performance criteria.

At a time when the costs of selecting, classifying, training, and equipping new recruits are extremely high, it is important to try to minimize the enlistment of accessions who will fail to complete their first term. These concerns led the Directorate for Accession Policy, OASD(MI&L), to contract with the Human Resources Research Organization (HumRRO) for a study of existing enlistment criteria and the collection of data that could lead to improved criteria. That project, "Evaluation and Improvement of Educational and Moral Standards for Entry into the Armed Forces," began in March 1982 and will be completed in March 1984.

The project statement of work specified four general types of potential predictor variables:

- educational credential type,
- high school performance and behavior variables,
- standardized aptitude and achievement tests, and
- criminal offense data.

Preliminary reviews suggested that existing data relating scores on standardized tests to ASVAB scores and to military performance could be used to address the third issue area. The other three areas required the collection of more data at a finer level of analysis than had been collected previously or than was available from documentation routinely collected as part of the accession process. Accordingly, HumRRO and OASD(MI&L) determined that a new survey instrument had to be developed. To provide a basis for developing survey items, the literature dealing with relationships between military performance and educational credential type, high school behavior variables, and offense history was reviewed. The first chapter of this report comprises a brief summary of those reviews.

The second chapter describes the development of the resulting instrument, the Educational and Biographical Information Survey (EBIS). Administration procedures, data processing, and editing of surveys are described. The final chapter provides item specifications and can serve as a code book for EBIS data tape users. The survey itself is contained in Appendix A.

As the military applicants and recruits who took the EBIS in 1983 move through their first terms of service, performance data will be collected and the predictive value of EBIS items will be analyzed. The full evaluation of education and moral standards and suggested recommendations for streamlining or modifying procedures and criteria will be made after analysis of the EBIS data.

Many individuals made important contributions to the development, administration, and analysis of the Educational and Biographical Information Survey. HumRRO's Manpower Analysis Program, under the direction of Dr. Brian K. Waters, developed the EBIS as part of the Standards project. Dr. Barbara Means, Project Director, designed the instrument with input from Dr. Waters, Mr. David Hannaman of HumRRO, and Dr. Eric Wish, project consultant. Dr. David Boesel and Dr. Zahava Doering of the Survey and Market Analysis Division of the Defense Manpower Data Center (DMDC) responded to draft forms of the EBIS with useful suggestions, which were incorporated into later revisions.

Ms. Linda Perelman of HumRRO's Manpower Analysis Program acted as Survey Coordinator, overseeing the transmittal of survey materials to survey sites and back to the processing center and serving as liaison with the survey sites.

Administration of the survey would not have been possible without the cooperation of the Military Entrance Processing Command (MEPCOM) and the four Services. Our gratitude is extended to Colonel J. A. White, Colonel T. M. Hamlin, Major Ron McCain, and Mr. Dennis Gaynor of MEPCOM; Colonel William T. Zaldo and Mr. Louis A. Ruberton of the Department of the Army; Mr. C. R. Hoshaw of the Office of the Chief of Naval Operations; Colonel Roger R. Campbell and Lieutenant Colonel James E. Watson, Headquarters, U.S. Air Force; and Major L. R. Jurica, Headquarters, U.S. Marine Corps.

Survey points-of-contact at the recruit training centers made arrangements for survey administration and return shipping. We acknowledge the conscientious cooperation of the following individuals: Captain Deans, Ft. Dix; Lieutenant Rothchild, Ft. Leonard Wood; Lieutenant Hasting, Ft. Sill; Lieutenant Bernard, Ft. Bliss; Lieutenant Green, Ft. Jackson; Sergeant Major Jones, Ft. McClellan; Mr. Mills, Ft. Knox; Commander Algren, Great Lakes Naval Training Center; Lieutenant Tellis, Orlando Naval Training Center; Lieutenant Commander Kircher, San Diego Naval Training Center; Major McGill, Marine Corps Recruit Depot San Diego; Lieutenant Colonel Sortino, Marine Corps Recruit Depot Parris Island; and Major Weatherford, Lackland Air Force Base.

Thanks are extended also to Lieutenant Colonel N. G. Cross, of Ft. Hamilton Military Entrance Processing Station (MEPS), whose cooperation permitted a thorough pretesting of the survey and to the commanders of all the MEPSs, who coordinated survey administration and returns.

The hundreds of individuals who administered the survey and the thousands who completed it cannot be thanked by name, but we are well aware that a research undertaking of this magnitude would have been impossible without their generous assistance.

Survey forms were produced, shipped, and processed by Intran Corporation, subcontractor for the project, under the direction of Mr. Dennis Dillon with the assistance of Ms. Mary Ellen Hartman. Mr. Ron Quayle of Intran's Washington office gave us the benefit of his survey expertise in the design and formatting of the instrument.

Ms. Gwen O'Neill, of the Defense Manpower Data Center (DMDC), offered useful advice concerning setting up the EBIS data files and developing the editing program. Mr. Mark Howell and Mr. Leslie W. Willis, both of DMDC, provided extensive, able analytic and programming support.

Dr. W. S. Sellman, Acting Director, Accession Policy within the Office of the Assistant Secretary of Defense (Manpower, Installations and Logistics) served as Technical Monitor for the Standards project. His support and advice were critical in the development and administration of the EBIS.

Last but not least, our gratitude is extended to Ms. Emma King, who typed more versions of the EBIS than any of us cares to remember, and who also was responsible for the typographic preparation of this report.

Summary

Applicants for military enlistment must meet minimum standards in terms of age, citizenship, physical and medical fitness, moral character, aptitude test scores, and education level. Nevertheless, current selection criteria result in the acceptance of many persons who subsequently fail to complete their terms of military service. As many as 15-20 percent of high school graduates and 30-40 percent of nongraduates are separated from service during the first 36 months because of failure to meet minimum behavior or performance criteria.

At a time when the costs of selecting, classifying, training, and equipping new recruits are extremely high and when the Services face an upcoming decade with a dwindling supply of new high school graduates, it will become increasingly important to make the best selection from among those applying for service. At present, education standards deal only with the possession of a high school diploma, and moral character screening is limited to a consideration of criminal offense record and previous substance abuse. Other types of biographical information--such as high school grades and behaviors, employment history, and attitudes towards authority--have considerable potential for improving military selection, particularly from among non-high school graduates, who as a group have shown very high rates of first-term attrition.

The Educational and Biographical Information Survey (EBIS) was developed to explore the potential utility of incorporating additional biographical information into the military selection process and to collect data relevant to the evaluation of current enlistment standards in the areas of education and moral character. The EBIS was administered to 34,000 military applicants and nearly 40,000 new recruits from all four Services in the spring of 1983. This report includes a detailed description of EBIS development, content, administration, and data processing procedures. Item specifications for the EBIS appear in the final chapter.

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Overview: Preservice Predictors of Military Performance

Four principles were employed in developing items for the Educational and Biographical Information Survey (EBIS):

- (1) Items pertinent to existing education and moral enlistment standards (e.g., specific educational credential type and number of criminal offenses of various types) were included.
- (2) To maximize the chances of including items with a significant relationship to military performance, priority was given to preservice variables with a demonstrated relationship to military performance in previous research.
- (3) Items were developed to fit into general constructs presumed to relate to personal characteristics associated with successful military performance. These included participation in school activities, educational achievement, attitude toward authority figures, home stability, conformity to rules and laws, and youth liability.
- (4) Where feasible, item formats and response options were made congruent with those in other large-scale surveys (e.g., the National Center for Education Statistics' High School and Beyond) to facilitate comparisons across data bases.

The remainder of this chapter provides a brief summary of the literature reviewed as a basis for developing EBIS items.

Educational Credentials

A vast amount of data document the difference in attrition behavior between recruits holding high school diplomas and those who do not (Department of Defense, 1981; Hiatt & Sims, 1980; Martin, 1977). A considerable body of research also shows that holders of a General Educational Development (GED) high school equivalency certificate perform more as nongraduates than as high school diploma graduates (Elster & Flyer, 1982). These findings are not sufficient, however, to guide the Services in setting enlistment standards for individuals with any of the wide variety of nontraditional educational credentials now given--such as correspondence school diplomas, adult education credentials, diplomas based on work-study programs, and diplomas from nonaccredited technical or religious schools. Currently, holders of these nontraditional credentials are classified simply as diploma graduates, nongraduates, or GEDs, and there are inconsistencies across Services in the way in which they are classified (see Laurence, 1983a). Thus, there is no broad base of empirical evidence on the military performance of individuals with nontraditional credentials with the exception of GED holders. Although the number of applicants with such credentials is relatively small, the Services still must be sure that they are being treated fairly in terms of enlistment standards. Hence, it was concluded that one section of the survey would be designed to elicit a description of the type of educational program the respondent had completed and the credential obtained. EBIS questions 1-5 deal with types of credentials held. Question 6 asks which state issued the credential. Question 9 is concerned with required minimum competency tests. Item formats were modeled after questions of this type included on the National Center for Education Statistics' High School and Beyond survey (National Opinion Research Center, 1980).

High School Behaviors

While ample research documents the value of the high school diploma as a predictor of completion of term of military enlistment (Department of Defense, 1978; Guinn, 1977; Lockman & Warner, 1976), the factors underlying this predictive relationship have eluded empirical demonstration. The facts that (1) education status predicts attrition better than do AFQT scores and that (2) the relationship between diploma possession and military term completion remains strong even when examined within AFQT category (Elster & Flyer, 1982; Martin, 1977) imply that more than intellectual aptitude is involved. Suggested relevant correlates of education status include motivation level, acceptance of authority, reading ability, social adjustment, specific learned knowledge or skills, and persistence--with the latter being the most often cited as the probable causal variable (Laurence, 1983b).

A review of previous research relating various measures of high school behavior to military performance revealed a focus on three types of measures:

- school achievement,
- adjustment to the school environment, and
- school discipline.

Each of these categories of school variables is reviewed below.

School Achievement Variables. Several research projects have examined the relationship between military performance and high school grades. Noddin (1969) found that candidates who failed to complete submarine school had significantly lower high school grades than those who completed submarine school. In developing the 1975 version of the Military Aptitude Predictor (MAP), HumRRO (1976) found that school grades predicted best of all the items

on it. While both of the above studies had small samples (under 300), the same finding was reported in a larger study by Greenberg, Murphy, and McConeghy (1977), who found that Navy and Marine Corps attriters self-reported lower grades and poorer academic skills than did nonattriters, even when education category (graduate/nongraduate) was held constant.

A related variable, the number of grades failed or repeated, differentiated military "success" and "failure" groups in several studies. Plag and his associates found this variable to predict significantly the likelihood of completing a full term of service with a recommendation for reenlistment for low-aptitude Navy (Plag, Goffman, & Phelan, 1967) and Marine Corps (Plag, Goffman, & Phelan, 1970) enlistees. Hoiberg, Hysham, and Berry (1973) found that Navy recruits discharged prematurely for psychological reasons had failed more grades than had members of a control group matched on AFQT.

Various researchers have investigated the predictive value of the particular high school subjects an applicant took or preferred. Noddin (1969) found submarine school completers more likely than failures to prefer mathematics and science over social studies and manual arts. Among the 51 most predictive items on the 185-item Navy Biographical Information Form administered to 4,000 school year 1968 recruits were six high school courses: automotive shop, physical education, woodshop, electronics, calculus, and social studies. Similarly, Guinn, Kantor and Vittola (1978) included 40 high school courses in their models which produced multiple correlations with attrition in the .43-.50 range for airman basics. (Of course, when militarily successful and unsuccessful groups are contrasted on large numbers of variables such as long lists of courses, a certain proportion of statistically significant differences can be expected to arise through chance.) High school course patterns

appear to have some promise for predicting performance, but further research is needed.

Adjustment to the School Environment. Schools, like the military, constitute a social environment with certain demands, expectations, and rewards. A variety of measures indicative of either positive or negative adjustment to the high school milieu have been investigated as potential predictors of military adjustment.

Participation in school activities and team sports is one indication of positive adjustment. Noddin's (1969) submarine school completers were more likely than the failures to have held an elected office in school. Similarly, Plag, Goffman, and Phelan (1967) found that hobbies and club offices were significant predictors of Navy AFQT Category IV enlistees' effectiveness. More recently, interviews with Army Trainee Discharge Program discharges and a control group found that the former were significantly less likely to have participated in school clubs, scouts, or team sports (Bauer, Miller, Dodd, & Segal, 1975). Extracurricular activities were included among the variables on the Navy Biographical Information Form (Bowser, 1974) and on the Early Experience Questionnaire included in the 1975 version of the Military Aptitude Predictor (Fischl, 1977).

Other inventory items have attempted to tap attitudes towards school reflecting a negative adjustment. Boredom with school, disputes with school officials, thoughts of quitting school, and feelings that teachers are excessively strict are typical of items included on the History Opinion Inventory (Guinn, Johnson, & Kantor 1975), Military Service Inventory (Dempsey, Sellman, & Fast, 1979), Life Path Questionnaire (Gaymon, 1977), and Recruit Background

Questionnaire (Atwater & Abrahams, in press). Reasons for leaving school were included on the Early Experience Questionnaire scale, which was modestly effective in predicting attritees (Fischl, 1977), but that particular item was not a significant predictor of AFQT Category IV Marine effectiveness in a study by Plag, Goffman, and Phelan (1970). School enjoyment was included on the school relations scale, which discriminated between discharges and non-discharges interviewed in a study of the Army Trainee Discharge Program (Bauer, Miller, Dodd, & Segal, 1975). When the 50-item Military Service Inventory was administered to over 50,000 applicants at the Military Entrance Processing Stations (MEPSs) in FY 1977, the item "I quit school because I lost interest" proved to be one of the five best predictors of attrition for both males and females. The item "I quit school because I was failing" did not predict attrition for either sex, but "high school was boring" did. Hence, there is some indication that individuals who report being bored or uninterested in high school will be more likely to drop out of military service.

School Discipline Problems. Although school discipline problems can be considered another measure of adjustment to the school environment, they have received enough attention from researchers to warrant presentation as a separate category. The working assumption has been that individuals who fail to abide by school regulations would have trouble also with military rules.

School suspensions and expulsions comprise the most studied discipline variable. Plag and his colleagues found number of school expulsions to be one of the five most effective variables for predicting who among a cohort of FY 1960 Navy recruits would complete a full term and be recommended for

reenlistment (Plag & Goffman, 1966) and one of the four most predictive preenlistment variables for estimating the expected performance of AFQT Category IV Navy (Plag, Goffman, & Phelan, 1967) and Marine Corps (Plag, Goffman, & Phelan, 1970) recruits. A high level of school expulsions has been reported for Navy recruits discharged for psychiatric reasons (Hoiberg, Hysham, & Berry, 1973) and for Navy enlistees ineligible for reenlistment (LaRocco, Pugh, & Gunderson, 1977). School expulsions and suspensions were included also on the History Opinion Inventory (HOI), used to predict attrition for airman basics (Guinn, Johnson, & Kantor, 1975), and on the Military Service Inventory (MSI) later derived from the HOI (Dempsey, Sellman, & Fast, 1979). Self reports of school expulsions and suspensions proved to be two of the five best items on the 50-item MSI for predicting 36-month attrition status for 22,114 male recruits from all four Services who took the inventory at the MEPSs in FY 1977 (DMDC, special analyses). Similar correlations between school expulsions or suspensions and poor military performance were found by Booth, McNally, and Berry (1978) and by Hoiberg and Pugh (1977).

A high rate of absenteeism (playing hooky) in school has been found to be associated with failure of recruits in submarine school (Noddin, 1969) and with Air Force enlistee attrition during the first two years of service (Guinn, Johnson, & Kantor, 1975). LaRocco, Pugh, and Gunderson (1977) found that Navy enlistees ineligible to reenlist were more likely than those who were eligible to have had a history of frequent school tardiness. Guinn, Johnson, and Kantor (1975) found that airmen who attrited were more likely to report having had "trouble with teachers." Performance of Air Force security police was related to attitude toward teachers in a study by McFarlane, Kantor, and Guinn (1979). Hence, school discipline problems, even when

measured solely through self reports, have been among the most useful pre-enlistment variables for predicting military performance.

Summary. Reflecting the many studies demonstrating the utility of high school behaviors and attitude toward school for predicting military adjustment, the EBIS includes many items in this area. Included are items on overall high school grades (question 8) and on grades in major subject areas (question 10). School and related activities are dealt with in question 11, which uses a format similar to a High School and Beyond item and asks respondents not only whether they participated in various activities, but also whether they served as a leader or officer. Suspensions and expulsions are dealt with in EBIS questions 12 and 13 respectively. Question 14 treats absenteeism, again employing response options modeled after a High School and Beyond item. Other school discipline problems and attitude toward school are covered in question 15, which asks the respondent to indicate all the infractions for which he or she was ever suspended, expelled, or sent to the principal's office, and question 16, which asks for all the reasons the respondent ever considered leaving school. The latter question includes options, such as "school was boring" and "I didn't get along with the teachers," which have proved predictive in earlier studies.

Criminal Offense Data

The second category of predictor variables reviewed was criminal offense data. Although this type of data currently is gathered on military applicants as part of the process of determining acceptable moral character, the data collected through this process have not been subjected to large-scale validation analyses. Research studies that have been conducted, however, do support the predictive value of this general kind of information.

Traffic Violations. The number of preservice traffic violations a recruit reported proved to be one of the 51 best items on the 185-item Navy Biographical Information Form, administered to 4,000 recruits (Bowser, 1974). Gaymon (1977) obtained similar results when using the Life Path Questionnaire to predict Navy recruit performance. In yet a third study, Navy enlistees who were ineligible to reenlist after their first term reported more traffic violations than those eligible to reenlist on a questionnaire developed by LaRocco, Pugh, and Gunderson (1977). These findings suggest not only that traffic violations do have some usefulness as a predictor variable, but also that self report is a feasible method for obtaining the violation information.

Arrests. Using a sample of 1952-53 Army enlistees, Klieger, Dubuisson, and Sargent (1962) found a correlation between preservice criminal record and in-service disciplinary incidents. In a similar vein, a series of Navy studies conducted in the 1960s linked number of preservice arrests to reenlistment eligibility. Plag and Goffman (1966) found more nontraffic arrests among the 469 sailors who dropped out or were ineligible to reenlist than among those eligible to reenlist from their sample of 180 FY 1960 Navy recruits. In another study, number of arrests proved to be the fourth most predictive variable in estimating the effectiveness of AFQT Category IV Navy enlistees (Plag, Goffman, & Phelan, 1967), but was not among the four best predictors for low-aptitude Marines (Plag, Wilkins, & Phelan, 1968).

The Navy's original Odds for Effectiveness (OFE) tables implemented in 1973 were based on Plag's research and included number of arrests as a variable. The tables later were reformulated without the arrest variable, however, when recruiters reported difficulty in getting arrest information (Wiskoff, 1977).

Later research supported the 1960s findings. Hoiberg, Hysham, and Berry (1973) found that discharged Navy recruits had more criminal charges filed against them than had recruits of the same mental aptitude level who were not discharged. In a 1977 study, Navy and Marine Corps attritees averaged eight percent more self-reported preservice arrests than did nonattritees (Greenberg, Murphy, & McConeghy, 1977).

Alcohol and Drug Use. Although fewer than 0.5 percent of service enlistees were coded as separated from service for alcohol (Interservice Separation Code [ISC] 64) or drug abuse (ISC 67) in FY 1980 or FY 1981, a study in which enlistees and noncommissioned officers were interviewed confidentially estimated that drugs or alcohol is involved in one of six attrition cases (Greenberg, Murphy, & McConeghy, 1977). Such findings would lead one to expect that preservice drug and alcohol use patterns would be useful predictors of military adaptability. Guinn, Johnson, and Kantor (1975), found that their Drug Admission Scale significantly improved predictions of airman attrition compared to predictions based upon aptitude scores, age, and education alone. Kolb, Nail, and Gunderson (1974) found a similar relationship among Navy recruits for self-reported preservice drug involvement and first-year attrition. Bauer, Miller, Dodd, and Segal (1975) found that attritees in the Army's Trainee Discharge Program differed from nonattritees in terms of self-reported preservice marijuana use, but not in terms of reported use of other drugs. (Failure to find significant differences may be related to the very low incidence of reported use of other drugs in this sample.)

Summary. The results of research to date are encouraging in that they suggest that criminal history or substance abuse information may significantly

improve predictions of military suitability even when the information is obtained through a self-report method.

What existing research does not do, however, is to validate the specific moral standards used by the Services. There is no evidence, for example, that recruits with a single minor misdemeanor (sentence under four months) perform satisfactorily, while those with a single major misdemeanor (sentence over four months but less than one year) do not. Service moral standards seem to be influenced as much by the recruiting market and by policy makers' intuitive assessments of what constitutes acceptable moral character as by empirical data.

To provide the kind of detailed, automated data needed to evaluate current moral standards, EBIS items 29, 31, 32, and 33 deal with traffic violations, misdemeanors, felonies, and juvenile felonies, respectively. The respondent is asked the number of offenses committed and the case disposition (arrest without conviction, conviction with sentence, sentence length) for misdemeanors and felonies. EBIS item 30 is designed to give some idea whether the particular offense committed (e.g., unauthorized use of a motor vehicle v. drunken driving) rather than simply the offense classification (i.e., as felony or misdemeanor) is relevant to predicting later military adjustment. Question 26 deals with alcoholism and asks the same question as the Application for Enlistment (DD Form 1966), although in somewhat simpler language. None of the EBIS questions in this behavioral area, in fact, ask for information beyond what is supposed to be supplied on DD Form 1966. The difference is the fact that the EBIS asks for these data in an easily categorizable format and that EBIS responses will be automated and retained for longitudinal validation.

Other Predictive Background Variables

The review of research and of other attitude and background inventories previously tried out by various Services uncovered a number of other item types which had proved to be predictive of military performance in smaller-scale studies. Inclusion of survey items concerning non-school variables was considered particularly important for the prediction of military performance of non-high school graduates.

Employment History. Several studies have found modest relationships between employment history or work attitude variables and military performance (e.g., Fischl, 1977; Frank & Erwin, 1978). Plag, Goffman, and Phelan (1970) studied AFQT Category IV Marine recruits and found length of main civilian employment to be significantly related to military effectiveness (measured by reason for separation, recommendation for reenlistment, paygrade discipline record, and average proficiency mark). Among the items on the most predictive scale of the Life Path Questionnaire, administered to 1,555 Navy male enlistees (Gaymon, 1977), was quitting a job. Bauer, Miller, Dodd, and Segal (1975) found that Army enlistees separated through the Trainee Discharge Program were less likely than nonattritees to have held a job at the time of enlistment, and if they had held one, were more likely to be dissatisfied with their job. Greenberg, Murphy, and McConeghy (1977) have reported contrasting results: Navy and Marine Corps attritees were slightly more likely than nonattritees to have held a job before entering service. However, Greenberg et al. did not control for education level, and most of their nonattritees were high school graduates (with a lower opportunity for holding a job because they were in school).

Family Socioeconomic Status (SES). Recruits from low-SES families were found to have an increased probability of attrition in a study of Marine Corps and Navy personnel by Greenberg, Murphy, and McConeghy (1977) and in a study of submarine school candidates by Noddin (1969). Noddin found also that submarine school drop outs had less educated parents. In contrast, the Army discharges studied by Bauer, Miller, Dodd, and Segal (1975) did not differ from nondischarges in terms of parents' SES. It should be noted that parents' SES is related to both education level and aptitude, two variables that predict military attrition and performance in military training. Socio-economic status was regarded as an important variable for inclusion on the survey to permit the disentanglement of these related factors.

Family Stability. The nature of an individual's family experiences may affect subsequent military performance in several ways. First, these experiences influence the development of personality characteristics, which may be positively or negatively related to military adaptability. Second, certain family backgrounds are correlated with family "problems" which may cause the recruit to separate from service in order to deal with them (Greenberg, Murphy, & McConeghy, 1977). Parents not living together as a result of divorce, separation, or death was associated with military attrition in studies of Navy and Marine Corps enlistees (Greenberg et al., 1977), Navy submarine school candidates (Noddin, 1966), AFQT Category IV Marines (Plag, Goffman, & Phelan, 1970), and Navy recruits (Plag, 1969; Plag & Goffman, 1966). In a study of 571 servicemen in Vietnam, Robins, Helzer, and McEvoy (1981) found that those who became narcotic users in Vietnam (with subsequent increased frequencies of disciplinary problems) were more likely to have had mothers with a history of alcoholism, drug abuse, or arrests.

Parental Discipline. An individual's attitude toward parental discipline may help predict how he or she will react to military discipline. Not surprisingly, several researchers have found correlations between discipline-related questions and subsequent military performance. Shoemaker, Ducker, and Kriner (1974) found that ratings of the severity of both mother's and father's discipline practices were related to delinquency during basic training for their sample of 1,199 Army enlistees. Reported excessive control by the father was associated with going AWOL. Similarly, Navy performance correlated inversely with reports of "hassling" by parents in Gaymon's (1977) study, and Air Force attrition was more frequent among those who reported "I have often gone against my parents' wishes" on the Military Service Inventory (MSI) as reviewed by Guinn, Johnson, and Kantor (1975). Reported quarrels with parents constituted one of the 51 best items on the 185-item Navy Biographical Inventory Form (Bowser, 1974). Noddin (1969) did not find a significant effect for parental discipline, but the small sample size in that study (220 graduates and 59 dropouts) tempers the interpretation of failure to find significant effects.

Youth Liability. Studies of adult drug usage and social deviance have linked these behaviors to youthful experiences. Behaviors such as frequent drinking, using of drugs, or running away from home are associated with later deviant behavior, particularly if these experiences start at an early age. In a study of 903 Navy enlisted men admitted to the Rehabilitation Center for drug usage, Kolb, Gunderson, and Nail (1974) found heavy drug involvement to be correlated with positive responses to survey items concerning running away from home, leaving home at an early age, and describing their father's discipline as "lax", "overstrict", or "hard to predict". Heavy users were more

likely also to report arrest, time in jail, or juvenile court involvement, to have been arrested at an early age, and to have relatives who had been in trouble with the law. Kolb, Nail, and Gunderson (1974) found that men with heavy preservice involvement with drugs advanced more slowly, had more disciplinary offenses in their first year of enlistment, and were more likely to use narcotic drugs once in service. Robins and her colleagues have developed a Youth Liability Scale which has been shown to predict not only drug abuse and criminal behavior in civilians, but also drug use and disciplinary problems in a sample of 571 servicemen in Vietnam (Robins, Davis, & Wish, 1977). Other preservice risk factors were drug usage, arrests, truancy, fighting, dropping out of school, and coming from a large city. Similarly, Noddin (1969) found that submarine school dropouts were more likely than graduates to have started smoking early and to have run away from home.

Marital Status/Dependents. A considerable body of research suggests that the Service attritee is more likely than the nonattritee to be married and to have several dependents (Greenberg, Murphy, & McConeghy, 1977; Guthrie, Lakota, & Matlock, 1978; Hoiberg, Hysham, & Berry, 1973; LaRocco, Pugh, & Gunderson, 1977). On the other hand, Beusse (1977) found that married enlisted personnel were less likely to have discipline problems. Number of primary dependents was one of the five variables in the Navy's original SCREEN (Success Chances for Recruits Entering the Navy); however, this variable is no longer used in computing SCREEN scores (a 70 percent score or probability of completing a first term is required of all male applicants).

Age. Lockman and Warner (1977) report that considering data across Services, the third best predictor of attrition (after education level and aptitude score) is the recruit's age. Higher attrition rates have been found

for younger recruits in the Army (Fischl, 1977; HumRRO, 1976), Navy (Bowser, 1974; Gaymon, 1977; Guthrie, Lakota, & Matlock, 1978; LaRocco, Pugh, & Gunderson, 1977; Plag & Goffman, 1966), Air Force (Guinn, Johnson, & Kantor, 1975); and Marine Corps (Greenberg, Murphy, & McConeghy, 1977; Plag, Wilkins, & Phelan, 1968). One problem in looking at age in isolation is that age will be highly correlated with years of education, another potent predictor of military adaptability. If the researcher controls for years of education completed, age may no longer improve predictions of attrition rates (Elster & Flyer, 1982; Greenberg et al., 1977). Again, the strong intercorrelations among attrition-related variables complicates estimates of the importance of individual factors.

Sex. Although female enlistees have more education and higher aptitude scores on the average than males, their attrition rates are generally higher. Most attrition research has been limited to male recruits, who comprise the overwhelming bulk of the Armed Forces. Females tend to prematurely separate from service at somewhat higher rates than male enlistees overall, but females are less likely to separate for failure to meet minimum behavioral or performance standards. On the other hand, females are much more likely to separate for reasons related to pregnancy or marriage (Flyer & Elster, 1983).

Race. Many of the attrition studies cited above examined race as a predictor of military performance. Results have been inconclusive. A number of studies have found lower attrition rates for black enlistees (Elster & Flyer, 1982; Guthrie, Lakota, & Matlock, 1978). The original computation of the Navy SCREEN, based on data for FY 1973 recruits, gave marginally higher SCREEN scores (chances for success) to black applicants than to whites with

the same age, AFQT category, education level, and number of dependents. Data gathered on recruits accessed the next year, however, revealed that attrition rates for blacks and whites no longer differed significantly, and race was dropped as a factor in computing SCREEN. In contrast to most earlier studies, Greenberg, Murphy, and McConeghy (1977) found higher attrition rates among black Navy and Marine Corps enlistees than among whites in their sample. In other studies, significant differences between races were found by Bauer, Miller, Dodd, and Segal (1975); Landau (1981); and Plag, Goffman, and Phelan (1970).

Recent analyses of attrition rates DoD-wide for males entering service between FY 1973 and FY 1978 found somewhat higher attrition rates among black males when both education level and AFQT were controlled for; among female accessions, on the other hand, blacks had lower attrition rates than whites (Flyer & Elster, 1983).

Summary. Some of these background variables are dealt with by EBIS items, and others are available for the EBIS sample from their DMDC master file. Employment history is covered by question 19 asking the length of the respondent's longest held single full- and part-time job and by question 20, which asks all the reasons the respondent ever left a job. Family socioeconomic status will be ascertained from responses to question 21, dealing with average annual family income, and question 22, which asks about mother's and father's education level. Question 23 requires a rating of both mother's and father's discipline. Question 24 asks whether a father or male guardian was in the home until the respondent was 16 years old and, if so, whether the father had a problem with drinking, drugs, arrests, or mental illness. Question 25 asks for the same information about the mother or female guardian.

Taken together, these three questions cover the family stability construct. A related concept is the notion of youth liability. Question 27 asks the respondent at what age (if ever) he or she first ran away from home, smoked, got drunk, used drugs, held a job, or went out on a date. The notion is that not only the acts themselves but also the age at which a person first commits them, may have predictive value.

The number of dependents the respondent has, age, sex, and race all can be obtained from DMDC files.

Conclusion

Taken as a whole, the literature relating biographical variables to military attrition appears promising. No one variable appears to be as strong a predictor as possession of a high school diploma, but many of the variables reviewed here repeatedly have shown moderate to strong relationships with attrition. School behaviors, violations of the law, employment history, and youth liability measures may improve the military selection process, particularly from among the traditionally high-risk group of non-high school graduates.

Survey Development

Survey Content

A set of structured-response items concerning education, background, and preservice behavior was developed to elicit information relevant to enlistment standard issues (e.g., type of educational credential and offense history) as well as biodata that had proved predictive in earlier research. (See previous chapter.) After pretesting, several items were restructured, two were dropped, and one was added -- yielding 34 items for the final EBIS, covering the content areas shown in Table 1 below. As apparent from the item numbers shown in Table 1, EBIS questions are grouped according to item type, with education questions followed by background and behavior questions. The most sensitive items were placed at the end of the survey to avoid losing responses to nonsensitive items from respondents who were annoyed or put on guard by earlier sensitive questions.

Many of the education and background variable items were based upon items used in the National Center for Education Statistics' High School and Beyond survey (National Opinion Research Center, 1980). The drug use question follows the basic format employed in the Office of the Assistant Secretary of Defense (Health Affairs) survey of drug and alcohol use by military personnel.

Offense history questions were designed to elicit the kinds of information the Services employ currently in making moral character eligibility determinations. The EBIS items and planned data collection procedures were reviewed both by HumRRO researchers, survey research consultants, and the Survey and Market Analysis Division of the Defense Manpower Data Center. The final EBIS questionnaire appears in Appendix A.

Table 1

EBIS Item Content and Position

<u>Content</u>	<u>Item Number</u>
Identifying Items	
Survey location type	A
Sex	B
Survey Date	C
Social Security Number	D
Date of Birth	E
Educational Items	
Years of school	1
Possession of regular diploma	2
Type of school	3
Private school accreditation	4
Alternative credentials earned	5
State issuing diploma	6
High school curriculum type	7
High school grades	8
Minimum competency test	9
Subject area grades	10
Extracurricular activities	11
School suspensions	12
School expulsions	13
Days absent and not ill	14
School trouble	15
Thoughts about quitting school	16
Background Items	
Type of area grew up in	17
Parent in military	18
Longest full- and part-time jobs	19
Reasons for leaving jobs	20
Annual family income	21
Parents' education levels	22
Parents' degree of discipline	23
Father's problems	24
Mother's problems	25
Age first job, date, runaway, cigarette, drunk, marijuana, hard drugs	27
Frequency of fighting	28
Behavioral Items	
Drinking consequences	26
Traffic violations	29
Arrests and convictions	30
Frequency of misdemeanor sentences	31
Frequency of felony arrests and sentences	32
Juvenile felonies	33
Frequency of alcohol and drug use	34

Pretest

EBIS items and administration procedures were pretested at the Ft. Dix, NJ Recruit Training Center (RTC) and the Ft. Hamilton, NY Military Entrance Processing Station (MEPS) in December 1982. At Ft. Dix, the pretest version of the survey was administered on two successive days to a total of 97 new Army recruits by an E-5 in the RTC Testing Section. At the Ft. Hamilton MEPS and two of its associated Mobile Examining Team (MET) sites, 100 applicants took the pretest EBIS. The 56 surveys given at the MET sites were administered by the regular Armed Services Vocational Aptitude Battery (ASVAB) civilian test administrators immediately upon completion of ASVAB testing; the surveys given at the MEPS were administered by project personnel. HumRRO personnel were on-site at both the RTC and the MEPS to deliver materials, brief personnel who would be administering the survey, observe survey sessions, and elicit post-survey feedback from respondents. In addition, an extra page inserted at the back of the surveys administered at Ft. Dix asked respondents to go back over the survey and write in comments about questions they found unclear, hard to read, or difficult to answer.

Pretest responses were coded and tabulated for each subject group. The proportion of respondents failing to answer each question was tabulated. The proportion of subjects failing to respond to individual questions ranged from 1 to 28 percent with \bar{X} = 9 percent (SD = 5.88). The highest nonresponse rates were associated with innocuous questions that had an unclear format (e.g., longest employment in a part-time job = 28 percent) or a low frequency of relevance (e.g., interest in business courses = 23 percent; judged usefulness of business courses = 27 percent). For those items judged in advance as sensitive in nature (e.g., school discipline problems, drug use, offense history), the average nonresponse rate was seven percent. This rate was

considered to be very acceptable, especially under conditions where the survey was presented in an informal, photocopy format. Items with high nonresponse rates were either dropped or reformatted for the final version of the EBIS.

In addition to obtaining written feedback from respondents at Ft. Dix, HumRRO staff members elicited verbal feedback on the questionnaire items. Recruits' oral comments, which were franker and more frequent than their written comments, were noted.

Four HumRRO researchers read through Ft. Dix survey booklets, tabulating respondent comments and response patterns that indicated confusion (e.g., indicating that one's diploma came from an accredited institution after responding that one was a non-high school graduate). This information was put together with recruits' oral comments and item data analyses and used as a basis for revising the survey. Several response options were dropped because of very low frequencies of selection (e.g., school subject area club participation) while others, suggested by respondents, were added (e.g., diploma from outside U.S., disciplined for smoking in school). In addition, the instructions read by the survey administrator were modified somewhat to employ simpler language.

The major change in administration procedures made after the pretest was the decision to administer the EBIS at the MEPSs and MET sites prior to the ASVAB rather than after it. Applicants who have finished the ASVAB often have their recruiters waiting outside the examination room and are anxious to receive their AFQT scores. Under such circumstances, participation in a voluntary survey is bound to be limited.

Study Design

The EBIS was designed for administration to both new recruits (during their in-processing) and Service applicants. While recruit subjects are more easily obtained for research purposes, they represent a restricted sample in terms of some of the variables of interest in this study--educational experience, aptitude, and criminal history. It was considered necessary to see how the new variables under investigation related to the characteristics currently used in selection (i.e., education, AFQT, criminal record history) in the applicant population. From a theoretical standpoint, one could justify looking at applicants alone, since it is with that population that any biographical inventory used in selection would be employed. However, only 40-50 percent of the applicants become accessions, limiting the amount of performance data that would be available for validating the predictive utility of data gathered on applicants. An additional consideration was the assumption that recruits might be more open about disclosing sensitive information. It is quite possible that certain inventory items can help predict attrition, if responded to candidly, but that candid responses cannot be elicited prior to selection. Such items could still be used in a post-accession survey to identify recruits who are "at-risk" and who could benefit from special counseling. Therefore, there were both theoretical and pragmatic reasons for employing recruit samples in addition to military applicants.

Manipulation of Instructions

Respondents' inclination to disclose personal or potentially damaging information is increased by informing them that their responses are being used for research purposes only. While data gathered under these circumstances are useful in advancing the theoretical understanding of the relationship between

background variables and military performance, they are insufficient as a basis for developing a biographical inventory to be used in selection. Applicants filling out an inventory during the selection process know that responses may affect their chances of being accepted for service. Their responses may be quite different from those of applicants who know they are participating in a research study and that their responses will not affect their enlistment opportunities.

Concern for this issue prompted the decision to use two different sets of instructions with the EBIS applicant sample:

- Research instructions emphasized that the EBIS was being administered as part of a study conducted by a civilian contractor and that responses would not affect the respondent's enlistment application or military record.
- Operational instructions informed respondents that the survey was part of a Department of Defense study concerning the preservice experiences of successful enlistees, but said nothing concerning whether responses would be used in making selection decisions. The assumption here was that when in doubt, applicants would presume that their responses might have an influence.

The two types of instructions are shown in Table 2. For survey shipments to MEPSs and MET sites, the two form types (operational and research) were collated. Thus, roughly half of the applicants at each site received a form with operational instructions, and half received research instructions. The study design included three groups as shown in Table 3. Recruits and

Table 2

Operational and Research Versions of
EBIS Instructions

Operational Instructions

NOTICE

The Department of Defense is asking for information about your education and life experiences.

You are being asked for your identification number so that information about you from your enlistment application and service file can be added to the information you provide on this questionnaire. Your answers will be put together with answers from other people like you to get a picture of the kinds of people who successfully complete their terms of military service.

Providing information in this questionnaire is voluntary. No penalty will be imposed for failure to respond to any particular questions.

Research Instructions

NOTICE

This survey of people entering or applying to enter military service is being conducted for the Department of Defense by the Human Resources Research Organization (HumRRO), a private research firm. This questionnaire asks about your education and life experiences.

YOUR RESPONSES TO THIS SURVEY WILL BE USED FOR RESEARCH PURPOSES ONLY. You are being asked for your identification number so that HumRRO can add information about you from your enlistment application and service file to the information you provide on this questionnaire. Your answers will be put together with answers from other people like you to get a picture of the kinds of people who successfully finish their terms of military service.

NO MILITARY PERSONNEL WILL BE ABLE TO LOOK UP THE ANSWERS YOU GIVE TO SURVEY QUESTIONS.

Providing information in this questionnaire is voluntary. No penalty will be imposed for failure to respond to any particular questions.

applicants with research instructions could be compared to assess the effect of the selection process on variables of interest. While recruits might be more willing than applicants--even with research instructions--to disclose sensitive information such as school discipline problems, the current selection process probably screens out a large portion of individuals with such negative background characteristics. Applicants with research instructions may be compared to applicants with operational instructions to gauge whether items that predict performance when given within the context of a research study would be likely to remain effective under operational administration.

Table 3
EBIS Research Design

Instructions	Sample	
	MEPS/MET (applicants)	RTC (recruits)
Research Only	X	X
Operational	X	-

Sample Size Considerations

Because attrition rates are strikingly different for high school graduates and nongraduates and different variables are likely to predict for the two groups, the survey sample had to be large enough to allow testing for predictive validities within education group within Service. Moreover, the study was concerned with a number of very low-frequency background variables,

such as graduation from a nonaccredited church-related school (less than one percent of high school graduates) and commission of a felony (less than one percent of accessions). In order to get at least 50 individuals in each Service with either of these variables, some 51,000 accessions likely would have to be surveyed.

Discussions with the Military Entrance Processing Command (MEPCOM) and Service representatives suggested that the least obtrusive sampling method would be the administration of the survey at all sites during a specified time period. To obtain the desired sample sizes, the applicant sample was defined as all individuals taking the ASVAB at MEPSs or MET sites during a two-week period and the recruit sample size was set at eight weeks' worth of new non-prior service active duty recruits entering each recruit training center (RTC). Recruit training center survey periods were staggered throughout the February through May 1983 time period. Efforts were made to accommodate the scheduling preferences of individual RTCs while still maintaining a fairly even distribution of RTC types (by Service) across the four-month survey period. The survey periods for each site and obtained sample sizes are shown in Table 4.

Table 4

Survey Administration Schedule and Obtained Sample Sizes

<u>Site</u>	<u>Period</u>	<u>Sample Size</u>
MEPSs and MET Sites	March 6-19	34,824
Recruit Training Centers		40,387
Sill (Army)	Feb 8-14	2,352
Jackson (Army)	Feb 9-April 15	5,896
Knox (Army)	"	3,170
Leonard Wood (Army)	"	1,881
Dix (Army)	March 1-April 25	2,379
San Diego (Navy)	"	2,311
San Diego (Marine Corps)	"	1,980
Lackland (Air Force)	March 2-April 26	9,423
Bliss (Army)	April 6-May 31	740
McClellan (Army)	"	1,641
Great Lakes (Navy)	"	3,423
Orlando (Navy)	"	3,268
Parris Island (Marine Corps)	"	1,923

Survey Distribution and Administration Procedures

The Services designated a survey point-of-contact for each of their recruit training centers; MEPCOM provided addresses and points-of-contact for the 68 MEPSs.¹

Survey materials were sent directly to the points-of-contact from Intran Corporation, the optical scanning company that served as subcontractor on the project. In addition to the survey forms themselves, these mailings included:

- Materials receipt postcard,
- Distribution and return mailing instructions,
- Return mailing labels,
- Instructions for survey administrators,
- Transmittal envelopes, and
- Sample size cards.

Survey site points-of-contact returned materials receipt postcards to HumRRO. A toll-free telephone number, included with the survey distribution instructions, enabled the survey point-of-contact to ask questions about the survey or to order additional materials from the HumRRO survey coordinator. MEPS points-of-contact were instructed to deliver survey forms to their MET sites, using the regular ASVAB distribution system.

Prior to the start of the survey administration period at each RTC, a HumRRO researcher visited the center to:

- verify receipt of all survey materials in adequate quantities;

¹Substations (Anchorage, Guam) were not included.

- discuss survey procedures with points-of-contact and survey administrators; and
- where possible, hold practice administration sessions for the individuals who would be giving the survey.

Site visits to all 68 MEPSs and some 900 MET sites were not economically feasible. Other steps were taken to ensure proper administration at these locations. A detailed Operations Plan was sent out to MEPSs from MEPCOM. The cover letter to this plan stipulated that the proper administration of the survey be treated as a high priority:

Due to the unusual significance and sensitivity of this survey, all instructions must be scrupulously adhered to. The individuals administering the survey should be thoroughly briefed on the importance of keeping all responses confidential as well as the need for continuous, tightly controlled handling procedures. This project must be viewed as a vital undertaking and accordingly, be assigned a high priority at every level.

As a final safeguard, a mailgram was sent to the commanding officer of each MEPS the week before the survey period to remind them of survey dates, the phone number for the HumRRO survey coordinator, and survey return procedures.

EBIS Administration

The EBIS was administered at MEPSs and MET sites by the ASVAB administrators immediately prior to giving the ASVAB. These individuals, usually civilians under contract to the U.S. Office of Personnel Management (OPM) or employed by DoD, are accustomed to standardized procedures for administering instruments. At the RTCs, the surveys were administered by NCOs at some sites and by civilian employees at others. Survey administrators generally

were individuals with experience administering tests or other types of forms during recruit in-processing.

The instructions provided to survey administrators included:

- Directions to have survey respondents read the Privacy Act notice on their survey forms.
- A reminder that the survey was voluntary: Individuals had the right to refuse to respond to any question or to the entire survey.
- "Directions for Answering Survey Questions" to be read verbatim to respondents.
- Instructions on filling out the transmittal envelope label for each survey session with their site code and the number of respondents in that session.
- Directions to put completed forms in the transmittal envelope without looking at any responses and to turn in the transmittal envelope to their survey point-of-contact.

Survey points-of-contact filled out sample size cards, indicating the number of ASVAB takers (for MEPSs) or non-prior service recruits (for RTCs) at their site during the survey period and the number who took the EBIS. They were asked to explain any discrepancy.

Survey forms were sent back to Intran on the Monday after each week of survey administration at the recruit training centers and on the Monday following the completion of the two-week survey period for the MEPSs.

Data Processing and Editing

The Educational and Biographical Information Survey (EBIS) forms were printed, shipped, received, and scanned by HumRRO's subcontractor, Intran Corporation.

Form Receipt and Processing

The survey point-of-contact at each location was instructed to return completed surveys to Intran in bulk shipments--at the end of the two-week survey period in the case of the MEPSs and each Monday during the eight weeks of administration for each recruit training center. Preaddressed mailing labels and special transmittal envelopes labelled by site number were provided for this purpose.

Intran inventoried and logged incoming forms by record control and site number. The form type (operational or research instructions) was precoded on the survey form: The site number was taken from the transmittal envelope and coded onto a header.

The EBIS forms were designed for optical scanning. All items were precoded: The respondent filled in the "bubble" next to the appropriate printed response for each item. The optical scanner reads every mark made in the appropriate places (bubbles) on the form.

Intran Corporation reviewed the forms to make sure they were scannable. Any questionnaires on which the pencil marks were too light for scanning or which had been filled out in ink were remarked in pencil.

HumRRO and Intran developed file specifications and code assignments for both EBIS forms. (They could be processed identically because they differed only in terms of the printed instructions). Specifications for this initial processing were designed to preserve each respondent's answers, even when sections were incomplete or extra data were provided. All items left blank were given an audit code of -1. (At a later stage in processing, those omitted items which a particular respondent was supposed to skip would be recoded as -3, legitimate skip.)

Wherever a subject marked more than one response when only one was called for, a multiple-punch code of -2 was entered, with the following exceptions:

- On items 1 and 22, dealing with the highest level of education achieved by self and parents, the highest level was coded when more than one had been marked.
- On items 11 A-D asking if the respondent had participated or participated as a leader in a variety of activities, the latter response was coded wherever both had been marked.

To allow analysts to distinguish these recoded responses from "pure" responses coded as marked, extra variables were added to the file to serve as "flags" for all cases in which the rule for resolving multiple entries had been used. For all other items, multiple entries were simply coded as -2. For these items, HumRRO researchers determined that no unambiguous resolution of the multiple responses could be made.

A number of derived variables were created for the data file by combining responses to several portions from an item. For example, the variable

"longest time in any single job" was created by taking the higher of the codes entered for item 19A ("longest time in a single full-time job" and item 19B "longest time in a single part-time job").

Data Editing Procedures

After unedited item frequencies were run on the data tapes provided by Intran, HumRRO researchers worked with Defense Manpower Data Center (DMDC) Survey Research and Market Analysis personnel to develop editing procedures to increase the usability of the data.

The editing program distinguished between legitimate and illegitimate item omissions. In many cases, respondents who answered an item in a certain way were instructed to skip one or more items on the questionnaire. For example, respondents who said their diploma was from a public school were told to skip the question about the type of private school they had graduated from. Omissions in such cases were recoded as -3, legitimate skips, to distinguish them from cases where the respondent should have answered, but did not (coded -1, omitted).

Review of the unedited item frequencies revealed that there were some items on which many respondents answered who should not have. For example, subjects with diplomas from public high schools were supposed to skip the question asking whether or not their private high school was state-accredited. Nevertheless, some 4,500 applicants and recruits (about six percent) who said they had attended public schools answered the private school accreditation question. Since this question was to be used to identify graduates of nonaccredited private schools for later tracking of their military performance, public school graduates who had responded to it had to be removed.

In this case and several like it, an audit code of -4 was assigned to indicate a skip pattern error.

For similar reasons, an audit code of -5 was assigned on items 5A-D, dealing with various high school equivalency credentials for respondents who indicated that they had the credential in question, but also indicated in question 2 that they had regular day program high school diplomas. Analysts will thus have the choice of counting these individuals as high school graduates or as equivalency holders, depending upon their purposes.

Data Quality Checks and Indicators

In using questionnaire data, analysts must take into account the data quality or extent of respondent error. Respondents may misunderstand a question, deliberately answer falsely, or skip items. Some respondents may answer questions at the beginning of the questionnaire, but cease responding by the latter part, whether out of fatigue, boredom, annoyance, or, in the case of EBIS, out of concern over the increasing sensitivity of the questions.

General measures of data quality include the number of respondents skipping an item and the number of inconsistent responses across items. Respondents were informed that the questionnaire was voluntary and that they could choose not to answer any or all of the questions. Table 5 shows the average number and percentage of questions skipped by recruits and applicants in each quarter of the questionnaire. Although the last portion of the instrument contains the most sensitive items (drug use and criminal offenses) and was most susceptible to fatigue effects, skip rates on that portion of the EBIS were lower than those on the second and third quarters, and below the average for the questionnaire as a whole.

Table 5

Distribution of Missing and Uncodable Responses
Across Questionnaire Sections

<u>Items</u>	<u>Applicants</u>		<u>Recruits</u>	
	<u>Mean#</u>	<u>Mean %</u>	<u>Mean#</u>	<u>Mean %</u>
A,B,1-11D (possible=22)	2.22	10.01	1.14	5.18
12A-24E (possible=20)	3.05	15.25	2.38	11.90
25A-30D (possible=21)	3.11	14.81	2.11	10.05
30E-34H (possible=20)	2.24	11.20	1.27	6.35
TOTAL (possible=83)	10.62	12.80	6.99	8.42

Table 6 presents frequency distributions for the number and percentage of items respondents skipped (-1 codes) out of the 83 skips possible on the entire form. As shown on the table, only about 1.5 percent of applicants and less than one-tenth of one percent of recruits refused to take the EBIS entirely (answered nothing more than initial identification items). These and others who failed to respond to all items were retained on the data tape to permit computation of "nonresponse" rates for all items and to allow use of whatever information a respondent did provide.

Table 6

Distribution of Questionnaires by Number
of Missing or Uncodable Responses
(possible=83)

Frequency of Omitted Items	Applicants			Recruits		
	#	%	Cum %	#	%	Cum %
None	2,005	5.76	5.76	3,476	8.61	8.61
1	3,639	10.45	16.21	5,813	14.39	23.00
2	3,140	9.02	25.22	4,975	12.32	35.32
3	2,692	7.73	32.95	4,022	9.96	45.28
4	2,511	7.21	40.17	3,201	7.93	53.20
5	2,158	6.20	46.36	2,358	5.84	59.04
6	1,731	4.97	51.33	1,887	4.67	63.71
7	1,444	4.15	55.48	1,367	3.39	67.10
8	1,465	4.21	59.69	1,593	3.94	71.04
9	1,737	4.99	64.67	1,923	4.76	75.80
10	1,443	4.14	68.82	1,615	4.00	79.80
11-15	4,446	12.77	81.59	4,208	10.42	90.22
16-25	2,909	8.35	89.94	2,299	5.69	95.92
26-45	2,275	6.53	96.47	1,365	3.38	99.29
46-74	664	1.91	98.38	222	0.55	99.84
Nonresponders	565	1.62	100.00	63	0.01	100.00

^aCompleted only eight identification items or less.

Item Specifications

Information needed for using the EBIS data tapes is provided in this section on an item-by-item basis. The same specifications apply to all EBIS tapes (both applicant and recruit files and individual Service files).

As a visual aid, questionnaire items are presented inside boxes. Immediately below the boxed item, the variable name and tape position appear.

Variable names reflect the question the variable is based upon. Thus, responses to EBIS item 1 would comprise the variable Q1. For EBIS questions from which more than one variable was obtained, uppercase letters keyed to subitems follow the question number (e.g., Q5A). In addition to variable names, a brief description of variable content is provided for each variable taken from questions containing multiple variables. Variables which were not derived from questionnaire items (e.g., header information and edit flags) comprise the extra variable series and are labelled XV and assigned a number (e.g., XV3).

Tape position indicates the variable's location on the edited data tape. If the tape is to be used with SPSS or SAS programs, the tape position information may be disregarded and variable names used with the system file.

Below the variable name and tape position, appear the codes used for that variable. These include both response codes and audit codes. A code of -1 is used for missing data, and a -2 code is used for multiple responses where the respondent should have given only one answer. Cases where respondents who should have responded did not (coded -1) are distinguished from cases where respondents did not answer questions that they were instructed to skip. An

example of the latter situation would be public school graduates answering Question 3. Respondents who said they had graduated from public school (Q3A) were told to skip item Q3B, which asked about type of private school. They were assigned a -3 (not applicable) for that subitem. In some instances, a 00 rather than a -3 was assigned to inapplicable subitems. An example where this was done is Question 29, variables Q29B and 29C. If the respondent indicated in the first part of the question (Q29A) that he or she had never committed a traffic violation, a 00 would be assigned to Q29B on the number of parking violations and Q29C on the number of nonparking traffic violation. This convention allows computation of the number of parking violations, number of other traffic violations, and total number of traffic violations for each respondent. In some cases, individuals answered an item or subitem which they should have skipped (e.g., public school graduates answering the subitem on private school type). These were assigned an audit code of -4, extra data. Finally, to facilitate analysis of data for individuals with various types of educational credentials, respondents who indicated that they had both a regular day program high school diploma (Q2) and one of the alternative credentials or equivalency certificates covered in item 5 (Q5A-5D) were assigned a -5 code for the subitem covering their alternative credential. This convention allows either separating this group from the larger group of those who earned the alternative credential but do not have a regular diploma (coded 02), or the combining of the two groups, as the analyst requires.

Beneath the list of variable codes, notes appear for items which some respondents should not have answered and for items to which some editing algorithm was applied. The note tells the user who should have skipped the item or subitem and what, if any, modifications have been made to the answers that respondents put on the questionnaire.

EDUCATIONAL AND BIOGRAPHICAL INFORMATION SURVEY

NOTICE

This survey of people entering or applying to enter military service is being conducted for the Department of Defense by the Human Resources Research Organization (HumRRO), a private research firm. This questionnaire asks about your education and life experiences.

YOUR RESPONSES TO THIS SURVEY WILL BE USED FOR RESEARCH PURPOSES ONLY. You are being asked for your identification number so that HumRRO can add information about you from your enlistment application and service file to the information you provide on this questionnaire. Your answers will be put together with answers from other people like you to get a picture of the kinds of people who successfully finish their terms of military service.

NO MILITARY PERSONNEL WILL BE ABLE TO LOOK UP THE ANSWERS YOU GIVE TO SURVEY QUESTIONS.

Providing information in this questionnaire is voluntary. No penalty will be imposed for failure to respond to any particular questions.

DIRECTIONS

Some of the questions on this form ask you to pick the one best answer. Other questions ask you to mark more than one answer. You should read all questions carefully and follow all the instructions.

Your answers will be read by a machine. You should:

- Use only a number 2 pencil.
- Make heavy black marks that completely fill in the circle for your answer. (See below.)
- Erase completely and neatly any answer you want to change.
- Make no extra marks or comments on the form

These marks will work:



These marks will NOT work:



Intran Processing Number

Variable Name: XV1

Tape Position: 1-6

Codes: 000001 - 999999

Note: A unique number was assigned to each form prior to mailing forms to survey sites.

Site Number

Variable Name: XV2

Tape Position: 7-9

Codes:

201	Ft. Bliss
202	Ft. Dix
203	Ft. Jackson
204	Ft. Knox
205	Ft. Leonard Wood
206	Ft. McClellan
207	Ft. Sill
208	Great Lakes NTC
209	Lackland AFB
210	Orlando NTC
211	Parris Island MCRD
212	San Diego MCRD
213	San Diego NTC
401	Albany MEPS
420	Atlanta MEPS
402	Baltimore MEPS
421	Beckley MEPS
403	Boston MEPS
404	Buffalo MEPS
422	Charlotte MEPS
424	Ft. Jackson MEPS
406	Harrisburg MEPS
425	Jacksonville MEPS
407	Manchester MEPS
423	Miami MEPS
408	Newark MEPS
409	New Haven MEPS
405	New York MEPS
410	Philadelphia MEPS
411	Pittsburgh MEPS
412	Portland MEPS
431	Raleigh MEPS
432	Richmond MEPS
430	San Juan MEPS
413	Springfield MEPS
414	Syracuse MEPS
417	Tampa MEPS
415	Wilkes MEPS
554	Chicago MEPS
555	Cincinnati MEPS
556	Cleveland MEPS

557 Columbus MEPS
558 Des Moines MEPS
559 Detroit MEPS
560 Fargo MEPS
561 Indianapolis MEPS
542 Jackson MEPS
543 Kansas City MEPS
526 Knoxville MEPS
544 Little Rock MEPS
527 Louisville MEPS
545 Memphis MEPS
562 Milwaukee MEPS
563 Minneapolis MEPS
528 Montgomery MEPS
529 Nashville MEPS
546 New Orleans MEPS
564 Omaha MEPS
549 Shreveport MEPS
565 Sioux Falls MEPS
566 St. Louis MEPS
636 Albuquerque MEPS
637 Amarillo MEPS
670 Boise MEPS
671 Butte MEPS
638 Dallas MEPS
639 Denver MEPS
640 El Paso MEPS
672 Fresno MEPS
673 Honolulu MEPS
641 Houston MEPS
674 Los Angeles MEPS
675 Oakland MEPS
647 Oklahoma City MEPS
676 Phoenix MEPS
677 Portland MEPS
681 Salt Lake City MEPS
648 San Antonio MEPS
667 San Diego MEPS
679 Seattle MEPS
680 Spokane MEPS

Note: Site identification codes taken from header.

Instructional Condition

Variable Name: XV3

Tape Position: 10-11

Codes: 01 Research Instructions

02 Operational Instructions

Note: Taken from skunk mark on form. All recruits received forms with research instructions. Forms with research and operational instructions were collated prior to distribution to applicants.

A. Survey location type:

☐ MEPS ☐ MET Site ☐ RTC

Variable Name: QA

Tape Position: 12-13

Codes: 01 MEPS

02 MET Site

03 RTC

-1 Missing or Uncodable

-2 Multiple Punch

B. Sex:

☐ Male ☐ Female

Variable Name: QB

Tape Position: 14-15

Codes: 01 Male

02 Female

-1 Missing or Uncodable

-2 Multiple Punch

C. Today's Date:

Write the numbers in the boxes, then

Mark the matching circles below each box

As in this example

DAY		MONTH	
1	1	0	2
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

DAY MONTH - 83

Variable Name: QC1 Survey Date-Day

Tape Position: 16-17

Codes: 00-39 Day

-1 Missing or Uncodable

-2 Multiple Punch

Variable Name: QC2 Survey Date-Month

Tape Position: 18-19

Codes: 01-12 Jan - Dec

-1 Missing or Uncodable

-2 Multiple Punch

D. Social Security Number:

0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

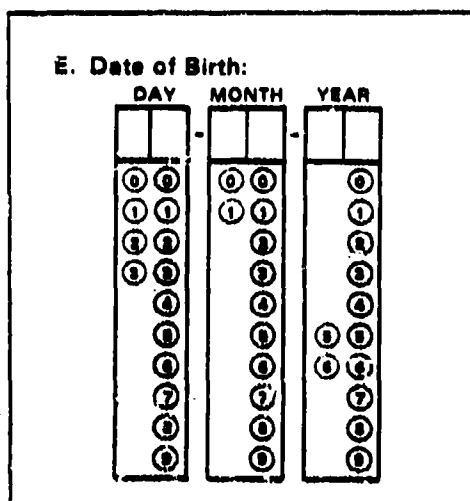
Variable Name: QD

Tape Position: 20-28

Codes 000000000 - 999999999

0000000-1 Missing or Uncodable

Note: Grid



Variable Name: QE1 Date of Birth-Day

Tape Position: 29-30

Codes: 01-39

-1 Missing or Uncodable

-2 Multiple Punch

Variable Name: QE2 Date of Birth-Month

Tape Position: 31-32

Codes: 01-12 Jan-Dec

-1 Missing or Uncodable

-2 Multiple Punch

Variable Name: QE3 Date of Birth-Year

Tape Position: 33-34

Codes: 50-69

-1 Missing or Uncodable

-2 Multiple Punch

Questions 1-7 ask about how much education you have had. If you are in school now, in questions 1-7 mark the grade or diploma program you will have finished when you enter active duty.

1. How many years of school have you completed? (If you are in school now, mark the grade you expect to complete before entering active duty)

- ☐ 8th grade or less
- ☐ 9th grade
- ☐ 10th grade
- ☐ 11th grade
- ☐ 12th grade
- ☐ Some college—Less than two years
- ☐ Some college—Two or more years
- ☐ College—Four-year degree
- ☐ Some graduate school
- ☐ Graduate degree (master's or doctorate)

(Skip to Question 5)

Variable Name: Q1

Tape Position: 35-36

Codes: 01 8th grade or less
 02 9th grade
 03 10th grade
 04 11th grade
 05 12th grade
 06 Some college - Less than two years
 07 Some college - Two or more years
 08 College - Four-year degree
 09 Some graduate school
 10 Graduate degree (master's or doctorate)
 -1 Missing or Uncodable

Note: For multiple punches, the higher value was coded.

2. Do you have a regular (day program) high school diploma? (Do not count diplomas from evening, adult education, or correspondence school programs here)

☐ No. (Skip to Question 5)

☐ Yes

Variable Name: Q2

Tape Position: 37-38

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

-3 Not Applicable

-4 Extra Data

Note: Respondents with less than a 12th grade education should not have answered this question. Those who did were coded as -4.

3. What kind of high school is your diploma from?

☐ Public high school (Skip to Question 6)

☐ Private high school

(Show below the type of private high school)

☐ Catholic

☐ Other church-related

☐ Not church-related

Variable Name: Q3A Kind of High School

Tape Position: 39-40

Codes: 01 Public high school

02 Private high school

-1 Missing or Uncodable

-2 Multiple Punch

-3 Not Applicable

-4 Extra Data

Note: Respondents with less than a 12th grade education should not have answered this question. Those who did were coded as -4.

Variable Name: Q3B Type of Private School

Tape Position: 41-42

Codes: 01 Catholic

02 Other church-related

03 Not church-related

-1 Missing or Uncodable

-2 Multiple Punch

-3 Not Applicable

-4 Extra Data

Note: Only graduates of private high schools should have answered this question. Responses from other individuals were coded as -4.

4. If you earned a high school diploma from a private school, was your school accredited (approved) by your state?

☐ Yes

☐ No

☐ I don't know

Variable Name: Q4

Tape Position: 43-44

Codes: 01 Yes

02 No

03 I don't know

-1 Missing or Uncodable

-2 Multiple Punch

-3 Not Applicable

-4 Extra Data

Note: Only graduates of private high schools should have answered this question. Responses from other individuals were coded as -4.

5. Have you earned any of the credentials shown below?
(Mark all that apply)

- ☐ GED
- ☐ High school equivalency certificate for passing a test other than the GED
- ☐ High school diploma from an adult education or evening school program
- ☐ High school diploma from a correspondence (home study) school
- ☐ None of these

Variable Name: Q5A GED

Tape Position: 45-46

Codes: 01 Unmarked

02 GED earned

-5 GED and high school diploma

Note: Respondents who indicated that they had both a GED and a regular high school diploma (Q2) were coded as -5. These individuals may be combined with GED holders without regular diplomas or may be treated separately.

Variable Name: Q5B Equivalency Other than GED Tape Position: 47-48

Codes: 01 Unmarked

02 Equivalency earned

-5 Equivalency and high school diploma

Note: Respondents who indicated that they had both an equivalency and a regular high school diploma (Q2) were coded as -5. These individuals may be combined with equivalency holders without regular diplomas (coded 02) or may be treated separately.

Variable Name: Q5C Adult Education Diploma

Tape Position: 49-50

Codes: 01 Unmarked

02 Adult education diploma earned

-5 Adult education and high school diplomas

Note: Respondents who indicated that they had both an adult education diploma and a regular high school diploma (Q2) were coded as -5. These individuals may be combined with adult education diploma holders without regular diplomas (coded 02) or may be treated separately.

Variable Name: Q5D Correspondence School Diploma **Tape Position:** 51-52

Codes: 01 Unmarked

02 Correspondence school diploma earned

-5 Correspondence school and high school diplomas

Note: Respondents who indicated that they had both a correspondence school and a regular high school diploma (Q2) were coded as -5. These individuals may be combined with correspondence school diploma holders without regular diplomas (coded 02) or may be treated separately.

Variable Name: Q5E No Equivalency Certificate **Tape Position:** 53-54

Codes: 01 Unmarked

02 No equivalency certificate earned

Note: Should be marked (02) by both high school graduates and nongraduates who have not earned an equivalency credential.

6. If you have either a high school diploma or an equivalency certificate from a public school or program (include GEDs and high school diplomas from adult education or evening programs), show what state it is from.

- | | | |
|------------------------------|-------------------------------|------------------------------------|
| <input type="radio"/> ALA. | <input type="radio"/> LA. | <input type="radio"/> OKLA. |
| <input type="radio"/> ALASK. | <input type="radio"/> MAINE | <input type="radio"/> OREG. |
| <input type="radio"/> ARIZ. | <input type="radio"/> MASS. | <input type="radio"/> PA. |
| <input type="radio"/> ARK. | <input type="radio"/> MD. | <input type="radio"/> PUERTO RICO |
| <input type="radio"/> CALIF. | <input type="radio"/> MICH. | <input type="radio"/> R.I. |
| <input type="radio"/> COLO. | <input type="radio"/> MINN. | <input type="radio"/> S.C. |
| <input type="radio"/> CONN. | <input type="radio"/> MISS. | <input type="radio"/> S. DAK. |
| <input type="radio"/> D.C. | <input type="radio"/> MO. | <input type="radio"/> TENN. |
| <input type="radio"/> DEL. | <input type="radio"/> MONT. | <input type="radio"/> TEX. |
| <input type="radio"/> FLOR. | <input type="radio"/> N.C. | <input type="radio"/> UTAH |
| <input type="radio"/> GA. | <input type="radio"/> N. DAK. | <input type="radio"/> VA. |
| <input type="radio"/> HI. | <input type="radio"/> NEBR. | <input type="radio"/> VT. |
| <input type="radio"/> IDAHO | <input type="radio"/> NEV. | <input type="radio"/> WASH. |
| <input type="radio"/> ILL. | <input type="radio"/> N.H. | <input type="radio"/> WIS. |
| <input type="radio"/> IND. | <input type="radio"/> N.J. | <input type="radio"/> W. VA. |
| <input type="radio"/> IOWA | <input type="radio"/> N. MEX. | <input type="radio"/> WYO. |
| <input type="radio"/> KANS. | <input type="radio"/> N.Y. | |
| <input type="radio"/> KY. | <input type="radio"/> OHIO | <input type="radio"/> OUTSIDE U.S. |

Variable Name: Q6

Tape Position: 55-56

Codes: 01 Ala.
 02 Alask.
 03 Ariz.
 04 Ark.
 05 Calif.
 06 Colo.
 07 Conn.
 08 D.C.
 09 Del.
 10 Flor.
 11 Ga.
 12 Hi.

- 13 Idaho
- 14 Ill.
- 15 Ind.
- 16 Iowa
- 17 Kans.
- 18 Ky.
- 19 La.
- 20 Maine.
- 21 Mass.
- 22 Md.
- 23 Mich.
- 24 Minn.
- 25 Miss.
- 26 Mo.
- 27 Mont.
- 28 N.C.
- 29 N. Dak.
- 30 Nebr.
- 31 Nev.
- 32 N.H.
- 33 N.J.
- 34 N. Mex.
- 35 N.Y.
- 36 Ohio
- 37 Okla.
- 38 Oreg.
- 39 Pa.
- 40 Puerto Rico

- 41 R.I.
- 42 S.C.
- 43 S. Dak.
- 44 Tenn.
- 45 Tex.
- 46 Utah
- 47 Va.
- 48 Vt.
- 49 Wash.
- 50 Wis.
- 51 W. Va.
- 52 Wyo.
- 53 Outside U. S.
- 1 Missing or Uncoded
- 2 Multiple Punch
- 3 Not Applicable

Note: This question should not have been answered by respondents with neither a regular high school diploma nor an equivalency.

7. What kind of courses did you take most of when you were in high school? (Mark only one)

- ☐ General (basic)
- ☐ Academic or college preparatory
- ☐ Vocational, technical, or business
- ☐ Other

Variable Name: Q7

Tape Position: 57-58

Codes: 01 General

02 Academic

03 Vocational

04 Other

-1 Missing or Uncodable

-2 Multiple Punch

-3 Not Applicable

Note: Individuals with less than an 8th grade education should not have answered this question.

8. How would you describe the grades you made in high school? (Mark only one)

- | | |
|---|---|
| <input type="radio"/> Mostly As | <input type="radio"/> Mostly Cs |
| <input type="radio"/> About half As and half Bs | <input type="radio"/> About half Cs and half Ds |
| <input type="radio"/> Mostly Bs | <input type="radio"/> Mostly Ds |
| <input type="radio"/> About half Bs and half Cs | <input type="radio"/> Mostly below D |

Variable Name: Q8

Tape Position: 59-60

Codes: 01 Mostly As

02 About half As and half Bs

03 Mostly Bs

04 About half Bs and half Cs

05 Mostly Cs

06 About half Cs and half Ds

07 Mostly Ds

08 Mostly below D

-1 Missing or Uncodable

-2 Multiple Punch

-3 Not Applicable

Note: Individuals with less than an 8th grade education should not have answered this question.

9. When you were in high school, did your school have a minimum competency or proficiency test that all students had to pass to get a high school diploma?

- ☐ No. (Go on to Question 10)
☐ Yes.

Variable Name: Q9A

Tape Position: 61-62

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

Note: Coded as 01 if item skipped with Q9B marked 01, 02, or 03.

(Mark the statement below that describes how you did on the test)

- ☐ I took this test and passed it
- ☐ I took this test but did not pass it
- ☐ I have taken this test but don't know my results
- ☐ I have not yet taken this test

Variable Name: Q9B

Tape Position: 63-64

- Codes: 01 Passed test
- 02 Did not pass test
- 03 Do not know test results
- 04 Haven't taken test
- 1 Missing or Uncodable
- 2 Multiple Punch
- 3 Not Applicable
- 4 Inconsistent Response

Note: Applicants who did not have to pass a competency test to get a high school diploma should not have answered this question (coded as -3). Those who indicated they did not have to take a competency test (Q9A) but marked a response showing their performance on such a test were coded as -4. These individuals may have taken a minimum competency test which they did not have to pass in order to receive a diploma.

10. For each of the subjects below, mark the statement that describes your high school grades.

	Never took this subject	Mostly As and Bs	Mostly Bs and Cs	Mostly Cs and Ds	Mostly Ds and Below
Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
English, Literature	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vocational/Shop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Variable Name:	Content:	Tape Position:
Q10A	Mathematics Grades	65-66
Q10B	English Grades	67-68
Q10C	Vocational Grades	69-70
Q10D	Science Grades	71-72

Codes for Variables Q10A-10D:

- 00 Never took this subject
- 01 Mostly Ds and below
- 02 Mostly Cs and Ds
- 03 Mostly Bs and Cs
- 04 Mostly As and Bs
- 1 Missing or Uncodable
- 2 Multiple Punch
- 3 Not Applicable

Note: Respondents with less than an 8th grade education should not have answered this question.

11. Were you in any of the activities below during high school? (Mark one response for each activity)

	Did Not Participate	Participated	Participated as a Leader or Officer
Athletic teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drama, music, art, chorus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School clubs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other clubs (Scouts, "Y", Boys Club, 4-H, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Variable Name:	Content:	Tape Position:
Q11A	Athletic Teams	73-74
Q11B	Drama, Music, Art	75-76
Q11C	School Clubs	77-78
Q11D	Other Clubs	79-80

Codes for Variables Q11A-11D:

- 00 Did not participate
- 01 Participated
- 02 Participated as leader or officer
- 1 Missing or Uncodable
- 3 Not Applicable

Note: Respondents with less than an 8th grade education should not have answered this question. For multiple responses, the highest value was coded (e.g., if respondents indicated both that they had participated and that they participated as leaders, the latter response was coded).

12. Were you ever suspended from school?

- ☐ No. (Go on to Question 13)
☐ Yes.

Variable Name: Q12A

Tape Position: 81-82

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

(Show how many times at each grade level below)

I was suspended:

(Mark all that apply)

Once while attending grades ☐ 1-6 ☒ 7-8 ☐ 9-12

Two or more times while attending
grades ☐ ☐ ☐

Variable Name:

Content:

Tape Position:

Q12B

Grade 1-6 suspensions

83-84

Q12C

Grade 7-8 suspensions

85-86

Q12D

Grade 9-12 suspensions

87-88

Codes for Variables Q12B-12D:

00 Never

01 Once during those grades

02 Two or more times

-1 Missing or Uncodable

-2 Multiple Punch

Note: Respondents who were never been suspended from school should not have answered this question. Respondents who skipped these subitems and had code 02 for Q12A (never suspended) were assigned code 00.

13. Were you ever expelled from school?

- ☐ Yes
- ☐ No

Variable Name: Q13

Tape Position: 91-92

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

14. In your last year of school, about how many days from the beginning of school in the fall up until Christmas vacation, were you absent for any reason, not counting illness?

- ☐ 0 days
- ☐ 1 or 2 days
- ☐ 3 or 4 days
- ☐ 5 to 10 days
- ☐ 11 to 20 days
- ☐ 21 or more days

Variable Name: Q14

Tape Position: 93-94

Codes: 00 0 days

01 1 or 2 days

02 3 or 4 days

03 5-10 days

04 11-20 days

05 21 or more days

-1 Missing or Uncodable

-2 Multiple Punch

15. Did you ever get into trouble at school for doing any of the things below? (Mark all things for which you were sent to the principal's office, suspended, or expelled)

- ☐ I was never sent to the office, suspended, or expelled
- ☐ Missing class
- ☐ Skipping school
- ☐ Fighting
- ☐ Being disorderly
- ☐ Bad language
- ☐ Smoking
- ☐ Talking back to teachers
- ☐ Other reasons

Variable Name:	Content:	Tape Position:
Q15A	Never in trouble in school	95-96
Q15B	Missing class	97-98
Q15C	Skipping school	99-100
Q15D	Fighting	101-102
Q15E	Being disorderly	103-104
Q15F	Bad language	105-106
Q15G	Smoking	107-108
Q15H	Talking back	109-110
Q15J	Other trouble	111-112

Codes for Variables Q15A-15J:

- 01 Unmarked
- 02 Marked

16. If you ever thought about quitting high school, show why. (Mark all that apply)

- ☐ I never thought about quitting high school
- ☐ My family needed money or needed me at home
- ☐ I was expelled or suspended
- ☐ I was bored, wasn't learning anything useful
- ☐ I got married or became a parent
- ☐ I was getting bad grades
- ☐ I didn't get along with the other students
- ☐ The rules were too strict
- ☐ I wasn't going to graduate on time
- ☐ I didn't get along with the teachers, counselors, or the principal
- ☐ I wanted to work full time
- ☐ Other reasons

Variable Name:	Content:	Tape Position:
Q16A	Never thought of quitting school	115-116
Q16B	Family needed money	117-118
Q16C	Expelled or suspended	119-120
Q16D	Bored	121-122
Q16E	Got married or pregnant	123-124
Q16F	Getting bad grades	125-126
Q16G	Didn't get along with students	127-128
Q16H	Rules too strict	129-130
Q16J	Wasn't going to graduate on time	131-132
Q16K	Didn't get along with teachers	133-134
Q16L	Wanted to work full time	135-136
Q16M	Other reasons considered quitting	137-138

Codes for Variables Q16A-16M:

- 01 Unmarked
- 02 Marked

17. Where did you live most of the time between the ages 8 and 17?

- ☐ Large city (100,000 or over)
- ☐ Suburb of a large city
- ☐ Small city or town (not a suburb of a large city)
- ☐ Rural (country)
- ☐ Hard to say, I moved around a lot

Variable Name: Q17

Tape Position: 141-142

Codes: 01 Large city

02 Suburb or large city

03 Small city or town

04 Rural

05 Hard to say, moved around a lot

-1 Missing or Uncodable

-2 Multiple Punch

18. When you were growing up (ages 8 to 17), were either of your parents in the military?

- ☐ Yes
- ☐ No

Variable Name: Q18

Tape Position: 143-144

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

19. Since you were 16 years old, what is the longest period of time you have ever held the same full- or part-time job? (Answer for both types of job)

	FULL-TIME JOB	PART-TIME JOB
Never had this kind of job	<input type="radio"/>	<input type="radio"/>
Less than 2 months	<input type="radio"/>	<input type="radio"/>
2-6 months	<input type="radio"/>	<input type="radio"/>
7-11 months	<input type="radio"/>	<input type="radio"/>
1 year or more	<input type="radio"/>	<input type="radio"/>

Variable Name:

Content:

Tape Position:

Q19A Longest Time in a Full-Time Job

145-146

Q19B Longest Time in a Part-Time Job

147-148

Codes for Variables Q19A-19B:

01 Never had this kind of job

02 Less than 2 months

03 2-6 months

04 7-11 months

05 1 year or more

-1 Missing or Uncodable

-2 Multiple Punch

20. Below are some reasons people leave jobs. Have you ever left a job for any of these reasons?
(Mark all that apply)

- ☐ I haven't had a job outside the home
- ☐ I went back to school
- ☐ The pay was not good
- ☐ I was laid off
- ☐ I was fired
- ☐ I found a better job
- ☐ I moved to another location
- ☐ I didn't get along with my supervisor
- ☐ I was arrested
- ☐ There was no chance to get ahead
- ☐ The working conditions were bad (dangerous, hot, dusty, etc.)
- ☐ To join the military
- ☐ Other reasons

Variable Name:	Content:	Tape Position:
Q20A	Haven't Had Job Outside Home	151-152
Q20B	Went Back to School	153-154
Q20C	Pay was Not Good	155-156
Q20D	Laid Off	157-158
Q20E	Fired	159-160
Q20F	Found Better Job	161-162
Q20G	Moved	163-164
Q20H	Didn't Get Along with Supervisor	165-166
Q20J	Arrested	167-168
Q20K	No Chance to Get Ahead	169-170
Q20L	Working Conditions Were Bad	171-172
Q20M	Joined Military	173-174
Q20N	Other Reasons Quit Jobs	175-176

Codes for Variables Q20A-20N:

- 01 Unmarked
- 02 Marked

21. What would you say was the average total amount of money your family made per year when you were 14 to 17 years old?

- | | |
|---|---|
| <input type="radio"/> \$6,999 or less a year | <input type="radio"/> \$16,000 to \$19,999 a year |
| <input type="radio"/> \$7,000 to \$11,999 a year | <input type="radio"/> \$20,000 to \$29,999 a year |
| <input type="radio"/> \$12,000 to \$15,999 a year | <input type="radio"/> \$30,000 or more a year |

Variable Name: Q21

Tape Position: 179-180

Codes: 01 \$6,999 or less

02 \$7,000 - \$11,999

03 \$12,000 - \$15,999

04 \$16,000 - \$19,999

05 \$20,000 - \$29,999

06 \$30,000 or more

-1 Missing or Uncodable

-2 Multiple Punch

The next four questions ask about your parents or guardians.
Answer for those adults with whom you lived for the longest
time between the ages of 8 and 17.

22. Below, education levels are listed from lowest to
highest. What is the highest level of education
completed by each of your parents or guardians?
(Mark one for each parent)

	FATHER/MALE GUARDIAN	MOTHER/FEMALE GUARDIAN
Did not live with this parent or guardian	<input type="radio"/>	<input type="radio"/>
Eighth grade or less	<input type="radio"/>	<input type="radio"/>
Some high school	<input type="radio"/>	<input type="radio"/>
GED	<input type="radio"/>	<input type="radio"/>
High school graduate	<input type="radio"/>	<input type="radio"/>
Technical or trade school <u>after</u> high school	<input type="radio"/>	<input type="radio"/>
Some college	<input type="radio"/>	<input type="radio"/>
College degree (four- or five-year)	<input type="radio"/>	<input type="radio"/>
Graduate school	<input type="radio"/>	<input type="radio"/>
Don't know	<input type="radio"/>	<input type="radio"/>

Variable Name:

Content:

Tape Position:

Q22A Father's Education Level

181-182

Q22B Mother's Education Level

183-184

Codes for Variables Q22A-22B:

- 00 Did not live with this parent
- 01 Eighth grade or less
- 02 Some high school
- 03 GED
- 04 High school graduate
- 05 Technical or trade school
- 06 Some college
- 07 College degree
- 08 Graduate school
- 09 Don't know
- 1 Missing or Uncodable

Note: For multiple punches, the higher value was coded.

23. Which one of the statements below best describes each of your parents in terms of discipline?

(Mark one for each parent)

	FATHER/MALE GUARDIAN	MOTHER/FEMALE GUARDIAN
Did not live with this parent or guardian	<input type="radio"/>	<input type="radio"/>
Very lenient: let me do whatever I wanted	<input type="radio"/>	<input type="radio"/>
Pretty lenient: let me make most decisions for myself	<input type="radio"/>	<input type="radio"/>
In between: could be easy-going or strict	<input type="radio"/>	<input type="radio"/>
Pretty strict: decided what I should do a lot of the time	<input type="radio"/>	<input type="radio"/>
Very strict: tried to control everything I did	<input type="radio"/>	<input type="radio"/>

Variable Name:

Content:

Tape Position:

Q23A

Father's Discipline

185-186

Q23B

Mother's Discipline

187-188

Codes for Variables Q23A-23B:

- 01 Did not live with this parent
- 02 Very lenient
- 03 Pretty lenient
- 04 In between
- 05 Pretty strict
- 06 Very strict
- 1 Missing or Uncodable
- 2 Multiple Punch

24. Did your father (or male guardian) live at home until you were 16?

- ☐ No. (Go on to Question 25)
☐ Yes.

Variable Name: Q24A

Tape Position: 189-190

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

(Show whether or not he had any of the problems listed below)

	Yes	No	Don't Know
Drinking problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drug problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arrest record	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental illness/breakdown requiring treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Variable Name:

Content:

Tape Position:

Q24B	Drinking Problem	191-192
Q24C	Drug Problem	193-194
Q24D	Arrest Record	195-196
Q24E	Mental Illness	197-198

Codes for Variables Q24B-24E:

01 Yes

02 No

03 Don't know

-1 Missing or Uncodable

-2 Multiple Punch

-3 Not Applicable

Note: Respondents who did not live with a father or male guardian should not have answered this question (coded -3).

25. Did your mother (or female guardian) live at home until you were 18?

- ☐ No. (Go on to Question 26)
☐ Yes.

Variable Name: Q25A

Tape Position: 199-200

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

(Show whether or not she had any of the problems listed below)

	Yes	No	Don't Know
Drinking problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drug problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arrest record	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental illness/breakdown requiring treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Variable Name:

Content:

Tape Position:

Q25B Drinking Problem

201-202

Q25C Drug Problem

203-204

Q25D Arrest Record

205-206

Q25E Mental Illness

207-208

Codes for Variables Q25B-25E:

01 Yes

02 No

03 Don't know

-1 Missing or Uncodable

-2 Multiple Punch

-3 Not Applicable

Note: Respondents who did not live with a mother or female guardian should not have answered this question (coded -3).

26. Has drinking ever led to your loss of a job, arrest, or treatment for alcoholism?

- ☐ Yes
☐ No

Variable Name: Q26

Tape Position: 209-210

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

27. How old were you the first time you ever:

	I Never Did This	Age 14 or Younger	Age 15-17	Age 18 or Older	Don't Recall Age
Held a paying job outside the home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Went out on a date	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ran away from home for more than one day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smoked cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Got drunk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used marijuana/hashish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used hard drugs (heroin, cocaine, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Variable Name:

Content:

Tape Position:

Q27A	Held Paying Job	211-212
Q27B	Went on a Date	213-214
Q27C	Ran Away	215-216
Q27D	Smoked Cigarettes	217-218
Q27E	Got Drunk	219-220
Q27F	Used Marijuana	221-222
Q27G	Used Hard Drugs	223-224

Codes for Variables Q27A-27G:

- 00 Never did this
- 01 Age 14 or younger
- 02 Age 15-17
- 03 Age 18 or older
- 04 Don't recall age
- 1 Missing or Uncodable
- 2 Multiple Punch

28. Over the last three years, how often have you gotten into physical fights with other persons?

- ☐ Never
- ☐ Fairly Often
- ☐ Once or twice
- ☐ Often
- ☐ Occasionally

Variable Name: Q28

Tape Position: 225-226

Codes: 00 Never

- 01 Once or twice
- 02 Occasionally
- 03 Fairly often
- 04 Often
- 1 Missing or Uncodable
- 2 Multiple Punch

29. Have you ever been convicted or paid a fine for traffic violations (including parking tickets)?

- ☐ No. (Go on to Question 30)
☐ Yes.

Variable Name: Q29A Traffic Violations

Tape Position: 227-228

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

(Show below the most parking and the most non-parking violations you ever had in a single year)

	1	2	3	4	5	6 or More
Parking violations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traffic violations other than parking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Variable Name:

Content:

Tape Position:

Q29B

Parking Violations

229-230

Q29C

Other Traffic Violations

231-232

Codes for Variables Q29B-29C:

01-06 Number of violations

-1 Missing or Uncodable

-2 Multiple Punch

00 Not Applicable

Note: Respondents with no traffic violations should not have answered this question; blanks with Q29A coded 02 were coded as 00.

30. Have you ever been arrested for any of the following offenses? (Mark one for each offense)

Offense	No	Yes, Arrested But Not Convicted	Yes, Arrested and Paid Fine/Convicted
Unauthorized use of a motor vehicle ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disorderly conduct ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drunken driving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drug-related offense ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Theft/larceny/ burglary/breaking and entering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assault/battery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Variable Name:	Content:	Tape Position:
Q30A	Unauthorized Use of Vehicle	235-236
Q30B	Disorderly Conduct	237-238
Q30C	Drunken Driving	239-240
Q30D	Drug-related Offense	241-242
Q30E	Theft	243-244
Q30F	Assault/Battery	245-246

Codes for Variables Q30A-30F:

- 01 No arrest or conviction
- 02 Arrest only
- 03 Conviction
- 1 Missing or Uncodable
- 2 Multiple Punch

31. This question is about misdemeanors. (Misdemeanors usually do not have jail sentences of more than one year.) Have you ever been convicted of a misdemeanor? (Fines, suspended sentences, and probations should be counted as convictions.)

- ☐ No. (Go on to Question 32).
☐ Yes.

Variable Name: Q31A Misdemeanors

Tape Position: 253-254

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

Note: Blanks for subjects with code 01-04 for variables Q31B, C, or D, are coded as 01.

(Show below the largest number of convictions of each type you ever had in a single year)

(Mark one for each)

Most Times in a Single Year

	0	1	2	3	4	or More
Given a fine or probation with no sentence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Given a sentence of less than 4 months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Given a sentence of 4 months or longer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Variable Name:

Content:

Tape Position:

Q31B	Number Fines with No Sentence	255-256
Q31C	Number Sentences under 4 Months	257-258
Q31D	Number Sentences over 4 Months	259-260

Codes for Variables Q31B-31D:

00-04

-1 Missing or Uncodable

-2 Multiple Punch

Note: Blanks for respondents who have had no misdemeanor arrests or convictions (Q31A = 02) are coded as 00.

32. Questions 32 & 33 are about felonies. (Felonies usually carry jail sentences of over a year.) Have you ever been arrested or convicted of a felony as an adult (age 18 or older)?

☐ No. (Go on to Question 33)

☐ Yes.

Variable Name: Q32A Felonies

Tape Position: 265-266

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

Note: Blanks for respondents who indicated some number of felony arrests or convictions (code > 00 for Q32B, C, or D) are coded as 01.

(Show below the total number of times each of these happened to you since age 18)

<u>(Mark one for each)</u>	<u>Total Number of Times</u>
	0 1 2 3 4 or More
Arrested but not convicted . . .	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Convicted and given a sentence of less than one year	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Convicted and given a sentence of one year or more	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

Variable Name:	Content:	Tape Position:
Q32B	Arrests with No Conviction	267-268
Q32C	Sentences under 1 Year	269-270
Q32D	Sentences over 1 year	271-272

Codes for Variables Q32B-32D:

00-04

-1 Missing or Uncodable

-2 Multiple Punch

Note: Blanks for respondents who indicated that they had never had a felony arrest or conviction (Q32A = 02) were coded as 00.

33. Have you ever been convicted of a felony when you were under 18?

- ☐ No. (Go on to Question 34)
☐ Yes.

Variable Name: Q33A Juvenile Felonies

Tape Position: 277-278

Codes: 01 Yes

02 No

-1 Missing or Uncodable

-2 Multiple Punch

Note: Blanks for respondents with Q33B marked were coded as 01.

(Show how many times below)

- ☐ Once
☐ Twice
☐ 3 or more times

Variable Name: Q33B Number of Juvenile
Felonies

Tape Position: 279-280

Codes: 01-03

-1 Missing or Uncodable

-2 Multiple Punch

00 Not Applicable

Note: Blanks for respondents who indicated that they had no juvenile felony convictions (Q33A = 02) were coded as 00.

34. Other than times when prescribed by a doctor, how many times have you ever used drugs or alcohol?
(Mark only one for each substance)

	1-4 Times	5-9 Times	10-24 Times	25-49 Times	50 Times or More	Never
Alcoholic beverages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marijuana/hashish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heroin (smack, horse)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocaine (snow)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uppers/stimulants (bennies, speed, amphetamines, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Downers/barbiturates/ sedatives/tranquillizers (Vallium, Quaaludes, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other narcotics (opium, methadone, codeine, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other drugs (LSD, angel dust/PCP, glue, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Variable Name:	Content:	Tape Position
Q34A	Alcohol	283-284
Q34B	Marijuana	285-286
Q34C	Heroin	287-288
Q34D	Cocaine	289-290
Q34E	Uppers	291-292
Q34F	Downers	293-294
Q34G	Other Narcotics	295-296
Q34H	Other Drugs	297-298

Codes for Variables Q34A-34H:

00 Never used this
 01 1-4 times
 02 5-9 times
 03 10-24 times
 04 25-49 times
 05 50 times or more
 -1 Missing or Uncodable
 -2 Multiple Punch

Variable Name:	Content:	Extra Variables	Tape Position:
XV4	Highest Multiple Logic Rule for Q1		301
XV5	Highest Multiple Logic Rule for Q11A		302
XV6	Highest Multiple Logic Rule for Q11B		303
XV7	Highest Multiple Logic Rule for Q11C		304
XV8	Highest Multiple Logic Rule for Q11D		305
XV9	Highest Multiple Logic Rule for Q22A		306
XV10	Highest Multiple Logic Rule for Q22B		307

Codes for Variables XV4-XV10:

00 Logic rule not used
 01 Logic rule used

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APPENDIX A

**Educational and Biographical
Information Survey**

EDUCATIONAL AND BIOGRAPHICAL INFORMATION SURVEY

DIRECTIONS

Some of the questions on this form ask you to pick the one best answer. Other questions ask you to mark more than one answer. You should read all questions carefully and follow all the instructions.

Your answers will be read by a machine. You should:

- Use only a number 2 pencil.
- Make heavy black marks that completely fill in the circle for your answer. (See below.)
- Erase completely and neatly any answer you want to change.
- Make no extra marks or comments on the form.

These marks will work:



These marks will NOT work:



NOTICE

The Department of Defense is asking for information about your education and life experiences.

You are being asked for your identification number so that information about you from your enlistment application and service file can be added to the information you provide on this questionnaire. Your answers will be put together with answers from other people like you to get a picture of the kinds of people who successfully complete their terms of military service.

Providing information in this questionnaire is voluntary. No penalty will be imposed for failure to respond to any particular questions.

A. Survey location type:

☐ MEPS ☐ MET Site ☐ RTC

B. Sex:

☐ Male ☐ Female

C. Today's Date:

Write the numbers in the boxes then Mark the matching circles below each box As in this example

DAY		MONTH		
1	1	0	2	-83
0	1	0	1	
0	2	0	2	
1	3	1	3	
2	4	2	4	
3	5	3	5	
4	6	4	6	
5	7	5	7	
6	8	6	8	
7	9	7	9	

D. Social Security Number:

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

E. Date of Birth:

DAY		MONTH		YEAR	
0	1	0	1	0	1
0	2	0	2	0	2
1	3	1	3	1	3
1	4	1	4	1	4
2	5	2	5	2	5
2	6	2	6	2	6
3	7	3	7	3	7
3	8	3	8	3	8
4	9	4	9	4	9
4	0	4	0	4	0
5	1	5	1	5	1
5	2	5	2	5	2
6	3	6	3	6	3
6	4	6	4	6	4
7	5	7	5	7	5
7	6	7	6	7	6
8	7	8	7	8	7
8	8	8	8	8	8
9	9	9	9	9	9

COMPUTER USE ONLY					
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5

Questions 1-7 ask about how much education you have had. If you are in school now, in questions 1-7 mark the grade or diploma program you will have finished when you enter active duty.

1. How many years of school have you completed? (If you are in school now, mark the grade you expect to complete before entering active duty)

- ☐ 8th grade or less
☐ 9th grade
☐ 10th grade
☐ 11th grade
☐ 12th grade
☐ Some college—Less than two years
☐ Some college—Two or more years
☐ College—Four-year degree
☐ Some graduate school
☐ Graduate degree (master's or doctorate)
- (Skip to Question 5)

2. Do you have a regular (day program) high school diploma? (Do not count diplomas from evening, adult education, or correspondence school programs here)

- ☐ No. (Skip to Question 5)
☐ Yes

3. What kind of high school is your diploma from?

- ☐ Public high school (Skip to Question 6)
☐ Private high school
 (Show below the type of private high school)
☐ Catholic
☐ Other church-related
☐ Not church-related

4. If you earned a high school diploma from a private school, was your school accredited (approved) by your state?

- ☐ Yes
☐ No
☐ I don't know

5. Have you earned any of the credentials shown below?
(Mark all that apply)

- ☐ GED
☐ High school equivalency certificate for passing a test other than the GED
☐ High school diploma from an adult education or evening school program
☐ High school diploma from a correspondence (home study) school
☐ None of these

6. If you have either a high school diploma or an equivalency certificate from a public school or program (include GEDs and high school diplomas from adult education or evening programs), show what state it is from.

- | | | |
|------------------------------|-------------------------------|------------------------------------|
| <input type="radio"/> ALA. | <input type="radio"/> LA. | <input type="radio"/> OKLA. |
| <input type="radio"/> ALASK. | <input type="radio"/> MAINE | <input type="radio"/> OREG. |
| <input type="radio"/> ARIZ. | <input type="radio"/> MASS. | <input type="radio"/> PA. |
| <input type="radio"/> ARK. | <input type="radio"/> MD. | <input type="radio"/> PUERTO RICO |
| <input type="radio"/> CALIF. | <input type="radio"/> MICH. | <input type="radio"/> R.I. |
| <input type="radio"/> COLO. | <input type="radio"/> MINN. | <input type="radio"/> S.C. |
| <input type="radio"/> CONN. | <input type="radio"/> MISS. | <input type="radio"/> S. DAK. |
| <input type="radio"/> D.C. | <input type="radio"/> MO. | <input type="radio"/> TENN. |
| <input type="radio"/> DEL. | <input type="radio"/> MONT. | <input type="radio"/> TEX. |
| <input type="radio"/> FLOR. | <input type="radio"/> N.C. | <input type="radio"/> UTAH |
| <input type="radio"/> GA. | <input type="radio"/> N. DAK. | <input type="radio"/> VA. |
| <input type="radio"/> HI. | <input type="radio"/> NEBR. | <input type="radio"/> VT. |
| <input type="radio"/> IDAHO | <input type="radio"/> NEV. | <input type="radio"/> WASH. |
| <input type="radio"/> ILL. | <input type="radio"/> N.H. | <input type="radio"/> WIS. |
| <input type="radio"/> IND. | <input type="radio"/> N.J. | <input type="radio"/> W. VA. |
| <input type="radio"/> IOWA | <input type="radio"/> N. MEX. | <input type="radio"/> WYO. |
| <input type="radio"/> KANS. | <input type="radio"/> N.Y. | <input type="radio"/> OUTSIDE U.S. |
| <input type="radio"/> KY. | <input type="radio"/> OHIO | |

7. What kind of courses did you take most of when you were in high school? (Mark only one)

- ☐ General (basic)
☐ Academic or college preparatory
☐ Vocational, technical, or business
☐ Other

8. How would you describe the grades you made in high school? (Mark only one)

- ☐ Mostly As ☐ Mostly Cs
☐ About half As and half Bs ☐ About half Cs and half Ds
☐ Mostly Bs ☐ Mostly Ds
☐ About half Bs and half Cs ☐ Mostly below D

9. When you were in high school, did your school have a minimum competency or proficiency test that all students had to pass to get a high school diploma?

No. (Go on to Question 10)

Yes.

(Mark the statement below that describes how you did on the test)

- ☐ I took this test and passed it
☐ I took this test but did not pass it
☐ I have taken this test but don't know my results
☐ I have not yet taken this test

10. For each of the subjects below, mark the statement that describes your high school grades.

	Never took this subject	Mostly As and Bs	Mostly Bs and Cs	Mostly Cs and Ds	Mostly Ds and Below
Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
English, Literature	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vocational/Shop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Were you in any of the activities below during high school? (Mark one response for each activity)

	Did Not Participate	Participated	Participated as a Leader or Officer
Athletic teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drama, music, art, chorus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
School clubs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other clubs (Scouts, "Y", Boys Club, 4-H, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Were you ever suspended from school?

- ☐ No. (Go on to Question 13)
☐ Yes.

(Show how many times at each grade level below)

I was suspended:

(Mark all that apply)

	1-5	6-10	11-12
Once while attending grades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Two or more times while attending grades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Were you ever expelled from school?

- ☐ Yes
☐ No

14. In your last year of school, about how many days from the beginning of school in the fall up until Christmas vacation, were you absent for any reason, not counting illness?

- ☐ 0 days
☐ 1 or 2 days
☐ 3 or 4 days
☐ 5 to 10 days
☐ 11 to 20 days
☐ 21 or more days

15. Did you ever get into trouble at school for doing any of the things below? (Mark all things for which you were sent to the principal's office, suspended, or expelled)

- ☐ I was never sent to the office, suspended, or expelled
☐ Missing class
☐ Skipping school
☐ Fighting
☐ Being disorderly
☐ Bad language
☐ Smoking
☐ Talking back to teachers
☐ Other reasons

16. If you ever thought about quitting high school, show why. (Mark all that apply)

- ☐ I never thought about quitting high school
- ☐ My family needed money or needed me at home
- ☐ I was expelled or suspended
- ☐ I was bored, wasn't learning anything useful
- ☐ I got married or became a parent
- ☐ I was getting bad grades
- ☐ I didn't get along with the other students
- ☐ The rules were too strict
- ☐ I wasn't going to graduate on time
- ☐ I didn't get along with the teachers, counselors, or the principal
- ☐ I wanted to work full time
- ☐ Other reasons

17. Where did you live most of the time between the ages 8 and 17?

- ☐ Large city (100,000 or over)
- ☐ Suburb of a large city
- ☐ Small city or town (not a suburb of a large city)
- ☐ Rural (country)
- ☐ Hard to say, I moved around a lot

18. When you were growing up (ages 8 to 17), were either of your parents in the military?

- ☐ Yes ☐ No

19. Since you were 16 years old, what is the longest period of time you have ever held the same full- or part-time job? (Answer for both types of job)

	FULL-TIME JOB	PART-TIME JOB
Never had this kind of job	<input type="radio"/>	<input type="radio"/>
Less than 2 months	<input type="radio"/>	<input type="radio"/>
2-6 months	<input type="radio"/>	<input type="radio"/>
7-11 months	<input type="radio"/>	<input type="radio"/>
1 year or more	<input type="radio"/>	<input type="radio"/>

20. Below are some reasons people leave jobs. Have you ever left a job for any of these reasons? (Mark all that apply)

- ☐ I haven't had a job outside the home
- ☐ I went back to school
- ☐ The pay was not good
- ☐ I was laid off
- ☐ I was fired
- ☐ I found a better job
- ☐ I moved to another location
- ☐ I didn't get along with my supervisor
- ☐ I was arrested
- ☐ There was no chance to get ahead
- ☐ The working conditions were bad (dangerous, hot, dusty, etc.)
- ☐ To join the military
- ☐ Other reasons

21. What would you say was the average total amount of money your family made per year when you were 14 to 17 years old?

- ☐ \$6,999 or less a year
- ☐ \$7,000 to \$11,999 a year
- ☐ \$12,000 to \$15,999 a year
- ☐ \$16,000 to \$19,999 a year
- ☐ \$20,000 to \$29,999 a year
- ☐ \$30,000 or more a year

The next four questions ask about your parents or guardians. Answer for those adults with whom you lived for the longest time between the ages of 8 and 17.

22. Below, education levels are listed from lowest to highest. What is the highest level of education completed by each of your parents or guardians? (Mark one for each parent)

	FATHER/MALE GUARDIAN	MOTHER/FEMALE GUARDIAN
Did not live with this parent or guardian	<input type="radio"/>	<input type="radio"/>
Eighth grade or less	<input type="radio"/>	<input type="radio"/>
Some high school	<input type="radio"/>	<input type="radio"/>
GED	<input type="radio"/>	<input type="radio"/>
High school graduate	<input type="radio"/>	<input type="radio"/>
Technical or trade school <u>after</u> high school	<input type="radio"/>	<input type="radio"/>
Some college	<input type="radio"/>	<input type="radio"/>
College degree (four- or five-year)	<input type="radio"/>	<input type="radio"/>
Graduate school	<input type="radio"/>	<input type="radio"/>
Don't know	<input type="radio"/>	<input type="radio"/>

23. Which one of the statements below best describes each of your parents in terms of discipline? (Mark one for each parent)

	FATHER/MALE GUARDIAN	MOTHER/FEMALE GUARDIAN
Did not live with this parent or guardian	<input type="radio"/>	<input type="radio"/>
Very lenient: let me do whatever I wanted	<input type="radio"/>	<input type="radio"/>
Pretty lenient: let me make most decisions for myself	<input type="radio"/>	<input type="radio"/>
In between: could be easy-going or strict	<input type="radio"/>	<input type="radio"/>
Pretty strict: decided what I should do a lot of the time	<input type="radio"/>	<input type="radio"/>
Very strict: tried to control everything I did	<input type="radio"/>	<input type="radio"/>

24. Did your father (or male guardian) live at home until you were 16?

- ☐ No. (Go on to Question 25)
- ☐ Yes.

(Show whether or not he had any of the problems listed below)

	Yes	No	Don't Know
Drinking problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drug problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arrest record	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental illness/breakdown requiring treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25. Did your mother (or female guardian) live at home until you were 16?

- ☐ No. (Go on to Question 26)
- ☐ Yes.

(Show whether or not she had any of the problems listed below)

	Yes	No	Don't Know
Drinking problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drug problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arrest record	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental illness/breakdown requiring treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Most of the questions below are similar to ones you have been asked already. Please answer them again for this study.

26. Has drinking ever led to your loss of a job, arrest, or treatment for alcoholism?

- ☐ Yes
☐ No

27. How old were you the first time you ever:

	I Never Did This	Age 14 or Younger	Age 15-17	Age 18 or Older	Don't Recall Age
Held a paying job outside the home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Went out on a date	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ran away from home for more than one day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smoked cigarettes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Got drunk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used marijuana/hashish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used hard drugs (heroin, cocaine, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. Over the last three years, how often have you gotten into physical fights with other persons?

- ☐ Never ☐ Fairly Often
☐ Once or twice ☐ Often
☐ Occasionally

29. Have you ever been convicted or paid a fine for traffic violations (including parking tickets)?

- ☐ No. (Go on to Question 30)
☐ Yes.

(Show below the most parking and the most non-parking violations you ever had in a single year)

	1	2	3	4	5	6 or More
Parking violations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traffic violations other than parking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. Have you ever been arrested for any of the following offenses? (Mark one for each offense)

Offense	No	Yes, Arrested But Not Convicted	Yes, Arrested and Paid Fine/Convicted
Unauthorized use of a motor vehicle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disorderly conduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drunken driving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drug-related offense	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Theft/larceny/burglary/breaking and entering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assault/battery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. This question is about misdemeanors. (Misdemeanors usually do not have jail sentences of more than one year.) Have you ever been convicted of a misdemeanor? (Fines, suspended sentences, and probations should be counted as convictions.)

- ☐ No. (Go on to Question 32)
☐ Yes.

(Show below the largest number of convictions of each type you ever had in a single year)

(Mark one for each)	Most Times in a Single Year					
	0	1	2	3	4	or More
Given a fine or probation with no sentence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Given a sentence of less than 4 months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Given a sentence of 4 months or longer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. Questions 32 & 33 are about felonies. (Felonies usually carry jail sentences of over a year.) Have you ever been arrested or convicted of a felony as an adult (age 18 or older)?

- ☐ No. (Go on to Question 33)
☐ Yes.

(Show below the total number of times each of these happened to you since age 18)

(Mark one for each)	Total Number of Times					
	0	1	2	3	4	or More
Arrested but not convicted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Convicted and given a sentence of less than one year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Convicted and given a sentence of one year or more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. Have you ever been convicted of a felony when you were under 18?

- ☐ No. (Go on to Question 34)
☐ Yes.

(Show how many times below)

- ☐ Once
☐ Twice
☐ 3 or more times

34. Other than times when prescribed by a doctor, how many times have you ever used drugs or alcohol? (Mark only one for each substance)

	1-4 Times	5-9 Times	10-24 Times	25-49 Times	50 Times or More	Never
Alcoholic beverages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Marijuana/hashish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heroin (smack, horse)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cocaine (snow)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uppers/stimulants (bennies, speed, amphetamines, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Downers/barbiturates/sedatives/tranquilizers (Valium, Quaaludes, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other narcotics (opium, methadone, codeine, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other drugs (LSD, angel dust/PCP, glue, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>